The Southeast Alaska Northern Southeast Inside Sablefish Fishery Information Report With Outlook To The 2004 Fishery

by
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Cover photo: Deck of the *F/V Masonic*, lower Chatham Straits, Alaska 2003 by Beverly Richardson, Alaska Department of Fish and Game.

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INTRODUCTION

Sablefish (*Anoplopoma fimbria*), also called blackcod, are a commercially important species throughout their range and are harvested primarily with longline or pot gear (Figure 1). They are a deepwater marine finfish, black to greenish gray in color, and are highly prized for their high oil content. This report details the commercial longline fishery and management of sablefish in the Northern Southeast Inside (NSEI) Subdistrict commonly referred to as the Chatham sablefish fishery (Figure 2). This fishery is the oldest and most lucrative groundfish fishery managed by the State of Alaska. Information on research and stock assessment for this fishery is not discussed in detail in this document but is available through a separate *Regional Information Report: Southeast Alaska Sablefish Stock Assessment Activities* 1988–2002, RIR IJ02-02 (Carlile et al. 2002).

General Biology of Sablefish

Sablefish are one of two species that make up the Anoplopomatidae family that includes sablefish and skillfish *(Erilepis zonifer).* Sablefish inhabit the northeastern Pacific Ocean from the Bering Sea and adjacent waters of Hokkaido, Japan to Baja, California with the greatest abundance in the Gulf of Alaska (Wolotira et al. 1993). They are divided into two populations: a northern population that includes all of Alaska and northern British Columbia waters and a southern population that includes all sablefish from southern British Columbia south to California. These populations were divided based on differences in size at maturity, growth, and movement (McDevitt 1990).

Adult sablefish inhabit the deeper water areas of the continental shelf, the slope, and the deep-water coastal fjords. Most adults live in depths of 366 to 915 m (200 to 500 fm) although they have been found in depths less than 183 m (100 fm) and greater than 1,830 m (1,000 fm) (Allen and Smith 1988) and are generally found near bottom (Krieger 1997).

They are a long-lived species with ages over 40 commonly appearing in commercial fishery samples. The maximum reported age for Canada is 55 years (McFarland and Beamish 1983), for Alaska, 94 years (Kimura et al. 1998), and for NSEI, 65 years. Sablefish are difficult to age and there are geographic differences in growth patterns. In the Gulf of Alaska the oldest males average a length of 69 cm and a weight of 3.4 kg. Old females average 83 cm in length and 6.2 kg in weight (Sigler et al. 2001). Fifty percent of females are sexually mature at 65 cm (6.5 years) and fifty percent of males are mature at 57 cm (5 years) (Sasaki 1985). Sablefish sampled from 1997 to 2003 in NSEI during ADF&G surveys had a maximum length of 110 cm for females and 95 cm for males.

Sablefish spawn in pelagic waters in depths of 300–500 m (164–273 fm) in the spring, in areas near the edge of the continental slope (McFarlane and Nagata 1988). Eggs develop at depth and larvae develop near surface waters. Sablefish juveniles exhibit rapid growth growing 1.19 mm d^{-1}(where d=day) during their first spring and summer (Sigler et al. 2001). Juvenile sablefish

reside in continental shelf waters, often in bays and nearshore waters, moving to the continental shelf beginning around age 2 (Sigler et al. 2001).

The published natural mortality estimates for sablefish in the Gulf of Alaska range from 0.10 (10%) (Sigler et al. 2001, Funk and Bracken 1984, and Johnson and Quinn 1988) to 0.22 (22%) (Low et al. 1976). The current National Marine Fisheries Service (NMFS) stock assessment for the Gulf of Alaska uses a rate of 0.10 (10%). Hoenig's formula for estimating natural mortality yields a natural mortality rate of 0.05 (5%) for NSEI sablefish (Hoenig 1983).

Adult sablefish are opportunistic feeders, preying on fishes (including pollock, eulachon, capelin, herring, sandlance, Pacific cod, and flatfish), squid, euphasids, Pandalid shrimps and jellyfish (Yang and Nelson 2000). Yearling sablefish feed primarily on euphasids (Sigler et al. 2001).

Adult coho and chinook salmon eat juvenile sablefish. ADF&G troll logbooks from 1977 through 1984 reported young sablefish as the fourth most common species in the stomach contents of coho and chinook salmon (Wing 1985). Pacific halibut is the only other species documented in a food study in the Gulf of Alaska as preying on juvenile or adult sablefish, with sablefish comprising less than 1% of their stomach contents (Yang and Nelson 2000).

Survey and Port Sample Data

Biological information specific to the NSEI sablefish fishery is collected during annual longline research surveys and, beginning in 2000, from dockside samples from the commercial fishery. Length frequency distributions from research surveys generally show a uni-modal distribution; however, beginning in 1998 there is a bi-modal distribution that is clearly evident in 1999. There appears to be some recruitment in 1998 with a mode at 55 and 56 cm, and particularly in 2001 with a strong mode at 52 cm (Figure 3). Length frequencies from the commercial catch display a larger average size and fewer small fish than survey samples and the distribution is more normally distributed (Figure 4). In 2003, lengths were taken from 818 sablefish during the longline survey; these ranged from 36 to 103 cm with a mean of 65 cm. In addition, lengths were taken from 1,817 sablefish landed in the 2003 commercial fishery in three ports (Sitka, Juneau, Petersburg). These ranged from 49 cm to 101 cm with a mean of 68 cm. Of these, females, which averaged 71 cm and ranged from 49 cm to 101 cm, were notably longer than males, which averaged 64 cm and ranged from 50 cm to 83 cm. The 2003 commercial lengths showed relatively less small fish and more concentration of fish around the mean than in 2002 (Figure 4).

Otoliths are aged using break-and-burn techniques (Williams and Bedford 1974). The age data from NSEI do not always show specific year classes progressing consistently through time (Figure 5). It is possible that sablefish are recruiting into the NSEI area at a variety of ages, including older ages, by immigration from areas outside NSEI. This possible multiple-age recruiting could mask the progression of year classes that might normally be evident when fish recruit to a population at a single young age, or series of younger ages, and then progress, over time, through the population. Tag data suggests that once recruited in NSEI, most of these sablefish are resident and therefore strong year classes should be able to be tracked through time (Carlile et al. 2002). Sablefish are difficult to age and aging errors may mask the contribution of

these year classes to the fishery. It is also possible that the annual sample sizes for determining age compositions have been too small and the occurrence of consistent progression of year classes through the population over time consequently may not be evident. Beginning in 2002, the sample size objective of the survey was increased from 450 to 750 to address this. In addition, to allow comparison of the age distribution of sablefish caught in the commercial fishery with those caught on the longline survey approximately 2,000 otoliths were taken from the 2002 and the 2003 NSEI fishery. These otoliths from the fishery have not been aged. Age data is available from the 2003 longline survey and show an average age of 15 years and range between 4 and 64 years with a peak at 8 years and a secondary mode around 26 years of age (Figure 5). Age distributions in Figure 5 are representative of relative abundance of each age as they are the product of percent frequency and catch per unit effort. For the past three years, the 1995 year class (represented by 8 year olds in the 2003 data) have been strongly present. Also in 2003 the 1993 year class is strong (represented as 10 year olds) however, this year class is not notable in prior years (Figure 5). The 1995 year class is also at above average strength in the Bering Sea and Gulf of Alaska (Sigler et al. 2003). The Gulf of Alaska data also shows a strong 1997 year class (6 year old in 2003); this year class is not strongly represented in the NSEI age data.

FISHERY

History of Fishery

It is not known when sablefish were first commercially harvested in the internal waters of Southeast Alaska. The first landing records of sablefish from this area were for 59,000 pounds in 1906 (Kolloen 1944, Bergmann 1975). Frederick Sound was considered a prime fishing ground through the early 1940s when catches diminished and the fleet moved into Chatham Strait (Figure 2). Prior to the 1940s, sablefish were primarily landed as incidental catch in the halibut fishery; however, there is a report of a directed sablefish trip in NSEI as early as 1913 (Bergmann 1975). Halibut longline gear was modified in the late 1940s to specifically target sablefish. In 1948 the fishing vessel *Wolverine* began targeting sablefish with small-eyed hooks and 9 to 13 foot hook spacing. It was believed that the smaller hooks would reduce the loss of fish due to spin-off as the gear was hauled to the surface. The Alaska Department of Fisheries conducted a gear comparison survey in Chatham Strait in 1949 and concluded that catch per skate of sablefish was greatly improved when using the new gear compared to standard halibut gear (Edson 1954). Sablefish was valued not only for its flesh, but also for its liver and viscera. Prior to the development of synthetic vitamins, sablefish oil was highly prized in the manufacturing of vitamins. In 1943, the price per pound was 10 cents for the flesh, 35 cents for the viscera and $1.65 for the liver (Kolloen 1944).

Harvest levels fluctuated widely until the 1970s due to price and increased opportunities in other fisheries, with high catch years associated with both World War I and World War II (Figure 6). Reported harvest has ranged from 26,984 round pounds in 1912 to 6.5 million round pounds in 1947. The most recent highest harvest was in 1997 when 4.75 million round pounds were landed.

The accuracy of catch data prior to 1985 is questionable, especially in earlier years given limited information on landing records (Table 1).

The history of management actions is listed in Table 2. Season limitations were first imposed in 1945 with the season limited from mid-March until the end of November. The commercial fleet requested this season reduction due to their concerns that the spawning stock was being heavily harvested (Kolloen 1944). Catch per unit effort data, in terms of fish per skate, showed a declining trend between 1940 and 1950. Average weight decreased during this time period as well. An industry recommended harvest limit of 1 million dressed pounds was implemented in 1973 (Table 2, Figure 6). ADF&G recommended a reduction in quota to 850,000 dressed pounds in 1979 and then moved to a guideline harvest range of 500,000 to 900,000 dressed pounds in 1980 based on historic catches. Seasons were shortened as effort escalated in the 1970s and 1980s (Bracken 1983). The fishery has been limited to longline gear since 1981.

Fleet effort and efficiency continued to increase dramatically and by 1984 the season was reduced to five days in the NSEI area (Table 2). In 1985, a limited entry program was implemented for the sablefish fishing fleet in NSEI and the guideline harvest range (GHR) was set at 500,000 to 1,500,000 dressed pounds (CFEC regulation 20 AAC 05.701-05.711, Appendix 1). Still, the overall operating efficiency of the NSEI longline fleet increased seven fold after the limited entry program was established. The average number of hooks set per vessel per day increased from 4,791 in 1984 to 28,514 in 1993. In order to stay within harvest objectives, the department continued to reduce the number of fishing days. The season length went from 76 days in 1980 to one day in 1987 (Table 2). A one-day opening continued until 1993. In that year, the fleet harvested 3,640,000 dressed pounds, 2,140,000 pounds over the upper bounds of the 1,500,000 dressed pound GHR (Figure 6). In an effort to improve management and to promote a safer fishery, the Alaska Board of Fish (BOF) adopted an equal quota share (EQS) system for the NSEI fishery beginning in 1994, to be evaluated in 1997 (Appendix 2). This plan was recommended by a working group of industry representatives and state fisheries managers after extensive negotiations. Under the EQS system each permit holder was given an equal share of the annual quota and the season was extended. The upper end of the GHR was increased to 3 million dressed pounds (4.76 million pounds round weight) at the time this system was implemented. The EQS system was made permanent in 1997 based on fleet and department recommendations. Logbooks detailing catch and effort by set became mandatory (Figure 7). At that same time the season was set in regulation for September 1 through November 15 and the GHR was set at 1.59–4.8 million round pounds (Table 2). Annual EQSs have ranged from a high of 41,700 to 18,400 round pounds (Table 2). The EQSs vary annually based on the total quota and number of legal participants for that year.

The fishery annual harvest objective (AHO) was lowered 35% in 1999 from 4.8 million round pounds to 3.12 million round pounds. This decision was based on the poor fishery performance over the prior 5 years and acknowledgement of the general decline in sablefish abundance coast wide (Sigler et al. 1997). The AHO was further lowered by 30% in 2001 to 2.184 million round pounds based on fishery CPUE and a mark-recapture-based estimate of exploitation rate that suggested the exploitation rate for the 2000 fishery was higher than prudent. The 2002 AHO was set at 2,005,000 based on an exploitable biomass estimate and adjusted for bycatch mortality

estimates (Richardson and O'Connell 2002). This AHO remained in place for 2003 (Richardson and O'Connell 2003).

Fleet Size

Between 1975 and 1984 the fleet size ranged from a low of 46 permits in 1982 to a high of 125 permits in 1976 (Table 1). In 1985 the Commercial Fishery Entry Commission (CFEC) implemented the limited entry program for the NSEI sablefish fishery with the objective that there would eventually be approximately 73 permanent permit holders (AS 16.43.270). The point system for this fishery is appended to this document (Appendix 1). As is typical of limited entry programs the fleet size increased dramatically once limited entry was implemented. There were 158 interim use permits fishing two years after the implementation compared to 86 permits the year prior to implementation (Table 1). As of the beginning of 2004 CFEC has completed work on 128 of the 167 applications received and 39 cases remain to be decided. Five of these cases are currently under appeal to the Alaska Superior Court and one to the Supreme Court. Of the 108 permits that may fish in 2004, 41 are permanent permits (18 are still in the name of original permit holder); the rest remain interim use permits. For further information on the status of permits, contact CFEC at http://www.cfec.state.ak.us.

The value of permanent NSEI CFEC permits increased as the result of implementation of the EQS system. Very few of these permits change hands and therefore it is difficult to track the prices paid for these permits using the summarized CFEC data. According to CFEC summaries, these permits had the highest average selling price of any permit statewide for 2000 and 2001 and then decreased a bit in price for 2002 and 2003, which made them the second highest, right below the Southeast herring roe purse seine permits. The price of these permits fluctuate due to many variables including the number of available permits, the price of fish and the outlook for the fishery. Information on the estimated values of these permits can be found at http://www.cfec.state.ak.us/pmtvalue/X_C61A.htm.

The EQS system allows for stacking of permits on a vessel. Since its implementation in 1994 the number of vessels annually participating in the fishery has decreased 21% while the number of permits allowed to fish has decreased 11% (Table 1).

Catch Per Unit of Effort

Fishery catch per unit of effort (CPUE) information was collected through skipper interview and voluntary logbook programs prior to 1997 and through a mandatory logbook program beginning in 1997. CPUE is affected by hook spacing and NMFS uses the following formula for CPUE standardization for commercial sablefish catch data (Sigler et al. 2001):

$$n_s = n_u * 2.2 * (1-\exp(-0.57 \text{ hook spacing})), \quad (1)$$

where n_s is the number of standardized hooks, n_u is the number of hooks fished and hook spacing is expressed in meters. This formula standardizes the hook spacing to 42." Fishery CPUE has

been adjusted for hook type (from j-hook to circle hook) and is expressed as total round pounds-per-total hooks standardized for hook spacing. CPUE not standardized for hook spacing is in parentheses. The standardized for hook spacing CPUE is a subset of the not standardized pounds-per-hook data as not all vessels provided the required hook spacing on their logbooks.

Hook type also affects CPUE. Historically j-hooks were considered the standard hook style for this fishery. Circle hooks, which dramatically increased catchability, were first reported in the NSEI sablefish fishery beginning in 1983. CPUEs for j-hook interview data have been adjusted using a factor of 1.5. This rate is the rate NMFS uses as a conversion from the sharp tara hooks from the Japanese longline survey to circle hooks and should be considered a conservative adjustment factor for j-hooks as it is expected that tara hooks are more effective than j-hooks. No adjustments have been made for differences in bait use or hook size.

The fishery CPUE was low in the early 1980s, increasing in the mid 1980s with the recruitment of very strong year classes (Figure 8) (Carlile et al. 2002). Due to these strong years classes the CPUE remained above 1 pound-per-hook from 1982 through 1993. In 1994 the fishery pound-per-hook began to show a marked decline. A declining fishery CPUE between 1993 and 1994 was not unexpected because of the change in management from a derby style to the EQS fishery. However, the decline in fishery pound-per-hook beginning in 1994 was of concern. The round pound-per-hook continued to decline until 2000 when it leveled off at 0.46 (0.51), the lowest fishery CPUE since 1980. It remained at this level until 2002 when it increased notably to 0.63 (0.70) round pounds-per-hook. In 2003 it increased further to 0.75 (0.83) round pounds-per-hook.

Bycatch of Sablefish

Sablefish are taken incidentally in fisheries for other species, most notably in the halibut longline fishery. They are also taken as bycatch in the crab fisheries. Other sources of mortality include subsistence and personal use fishing and discard or unreported mortality in the directed sablefish fishery due to gear loss, loss of fish off the gear, sandflea and shark predation, and release of injured fish. There is no information on the magnitude of these catches.

Until mid July of 2003, when the use of sablefish for bait was prohibited, sablefish could be legally taken for bait. There has been poor compliance with the reporting requirements for bait use and very little bait use has been reported although anecdotal information suggests this is a significant source of mortality on sablefish.

In 2002 and 2003 it was estimated that 110,000 pounds of sablefish were killed as a result of bycatch in the commercial halibut fishery in NSEI. This number was based on the bycatch of sablefish during the 2000 and 2001 International Pacific Halibut Commission (IPHC) halibut surveys for stations in NSEI deeper than 100 fathoms. This rate was 26% of the legal halibut catch. This rate was applied to the amount of commercial halibut catch taken in NSEI from waters deeper than 100 fm to get the bycatch of sablefish and then half of this amount was assumed to be deadloss either through hooking injuries, sandflea predation, bait use or home pack. In addition other sources of unreported mortality were estimated to be 62,000 pounds, roughly 3% of the exploitable biomass estimate in NSEI for those years.

Research Activities

The department is involved in several projects to aid in assessment and management of NSEI sablefish. Annual longline surveys have been conducted since 1988. In recent years three commercial vessels have been chartered annually to simultaneously conduct the survey. The objectives of these surveys have been to provide CPUE and biological data to assess the abundance and general condition of the sablefish resource in Chatham Strait. These surveys are important to the assessment of stock condition and will continue to be conducted annually. (Carlile et al. 2002, Richardson 2001, Richardson 2003, Richardson 2003).

Mark-recapture studies have been conducted since 1997. For the past four years ADF&G has chartered a sablefish pot vessel to mark sablefish in NSEI during late June and early July. More than 27,000 fish have been marked in the past four seasons (Richardson 2001, Richardson 2003, Richardson 2003). This research provides us with information to estimate exploitation rates and abundance of NSEI sablefish (Carlile et al. 2002).

The department is currently involved in a study to evaluate the use of passive integrated transponder (PIT) tags to mark sablefish. These are internal tags that will be automatically detected by receivers installed in processing plants. Use of PIT tags should increase the detection rate of the number of marked fish landed, allow estimation of abundance by size strata, and increase efficiency of the recapture phase of this study (Carlile et al. 2002). During the fall of 2003 nearly 200 sablefish were tagged with PIT tags and were held live in circulating seawater tanks at the Seward Marine Center. Fish were tagged either in the head muscle behind the eye socket or in the body cavity. The objective of this 5-month study is to determine the most suitable tagging location (i.e., which area had greater tag retention), determine tag retention rates, and experiment with tag detection equipment.

Tags are recovered during the commercial fishery and returned to ADF&G either by mail or in person by fishermen and processing workers, and preferably by being attached to commercial logbooks. Mermaid hats or t-shirts are presented to anyone returning a tag. Letters are sent to each person providing release and recovery information for the tags they recovered. Each tag returned with precise recovery information is included in a drawing for cash rewards. Current cash rewards include one $1,000 reward, two $500 rewards and three $250 rewards. The drawing is conducted annually using a random number generating function and the tags with the six highest randomly generated numbers are the winners.

The ADF&G provided 6 sablefish from the 2003 NSEI longline survey for the Department of Environmental Conservation (DEC) Environmental Health Fish Monitoring Project for sampling for heavy metals (arsenic, cadmium, lead, chromium, selenium and nickel and methyl mercury). These fish were included in a sample of 40 sablefish taken statewide. The analysis of this combined samples revealed low levels of all heavy metal contaminants tested and, according to the Alaska Division of Public Health, the concentrations of heavy metals detected in these samples are not a public health concern. More in-depth data on heavy metals can be found at www.state.ak.us/dec/animal/fm-heavymetals.htm, and www.state.ak.us/dec/deh/fishsafety.htm.

January 2003 Board of Fisheries

During the January 2003 Alaska Board of Fisheries (BOF) meeting, the BOF made several major changes in regulations affecting the NSEI sablefish fishery. A synopsis of regulations that pertain to the NSEI sablefish fishery can be found at the end of this document. Complete regulations can be found at http://www.cf.adfg.state.ak.us/geninfo/regs/cf_regs.htm**.**

The major changes that affect the NSEI sablefish fishery are:

- The opening date for the fishery was changed from September 1 to August 15.
- Randomly selected permit holders will be allowed to fish outside of the regular season at the department's request to gather biological and catch data.
- Permit holders are allowed to release healthy sablefish and are required to document the number of fish released in their logbook. All injured or dead sablefish must be retained.
- The retention of sablefish for use as bait is prohibited in state waters.
- Permit holders are allowed to carry over up to 5% of their annual equal quota share as an overage or underage or transfer up to 5% of their legal harvest to another permit holder.
- Sablefish regulations were updated to clarify data sources used for setting annual guideline harvest limits, and strengthen the regulations requiring permit holders to maintain inseason records of their cumulative catch and to provide this information to buyers if the permit holder has made multiple deliveries.
- Thornyheads and shortraker, rougheye and redbanded rockfish may be taken only as bycatch.

The 2003 Commercial Fishery

The 2003 NSEI sablefish fishery opened 2 weeks earlier than in the past, at 8 am August 15, and remained open through noon November 15 as set in regulation (5AAC28.110(a (1))). This change was made by the BOF as a result of an industry request for a longer season and desire to fish prior to the opening of the school year so that families to might be able to participate in the fishery. The proposal requested that the season be extended to an 8-month season however the BOF extended the fishery from 2.5 to 3 months.

2003 was the tenth year of the EQS system for this fishery and the seventh year since the EQS fishery was made permanent in NSEI. The 2003 annual harvest objective was set at 2.005 million round pounds, the same as 2002, which had been an 8% decrease from the 2001 AHO. The number of allowable interim use and permanent permits was 108, one less than in 2002. The 2003 EQS was 18,565 round pounds up 165 pounds from 2002 due to one less permit (Table 2).

At the January meeting in Sitka the BOF passed regulations that allow a permit holder to either; harvest up to 5% over that year's EQS and have this amount deducted from their following year's EQS or under-harvest up to 5% of that year's EQS and carryover these pounds and have them added to their EQS the following year. Regulations also allow permit holders to transfer legal poundage to another permit holder. For 2003 the maximum poundage that was allowed for overages or underages was 928 round pounds.

The total directed commercial harvest from NSEI in 2003 was 2,001,643 round pounds. The legal harvest was 1,976,408 round pounds; in addition 49 permits landed a total of 21,821 round pounds (1.1% of the AHO) as legal overages (less than 5% of EQS), 5 permits transferred a total of 2,314 round pounds to a second permit and 4 permits landed illegal overages (GT or equal to 5% of EQS) for a total of 1,100 round pounds. In 2002 we had exceed the AHO by 4,380 round pounds while in 2001 the total harvest was 2,142,617 round pounds or 98% of the AHO. Over 93 percent of the harvest was landed round, with less than 7 percent landed eastern (J) cut.

Eighty-eight individual vessels made at least one landing during the 2003 fishery compared with 86 in 2002, 87 in 2001 and 94 vessels in 2000. Eight vessels (9%) participated in 2003 that did not participate in 2002 and four of these had not participated in any of the last 9 years. Sixty-four (73%) of the vessels that fished this year had participated in the fishery for each of the past 5 years and 36 (41%) of this year's vessels had participated in each of the last 9 years.

The two week earlier opening date of August 15 had the effect of slowing participation on opening day and resulted in less effort occurring early in the fishery. In 2003, only 25 vessels (28%) fished on opening day compared to 52 (60%) on opening day September 1, 2002. In contrast, 48 vessels (55%) fished opening day in 2001 and 61 vessels (66 %) fished opening day in 2000. In 2003, 13 additional vessels entered the fishery the first week for a total of 38 (43%) vessels fishing the first week of the fishery while in 2000-2002 only a couple additional vessels entered the fishery the remainder of the first week. This decrease in early participation was due to a portion of the fleet participating in other fisheries, especially the salmon seine fishery, during August.

The 108 permits made a total of 229 landings in 2003, similar to the 233 landings made in 2002. The maximum number of landings per permit in 2003 remained 8, and the average number of landings per permit in 2003 was 2.1, the same as in 2002 and down from 2.7 in 2001. In 2003 41 permits (38%) finished their EQS in one landing and 36 (33%) made only 2 landings compared with 34 (31%) and 48 (44%) in 2002. Fifteen percent of the 2003 catch was landed by the 4th day of the fishery (August 18) compared to 25% of the catch by day 4 in both 2001 and 2002. During the 2003 fishery 25% of the catch was landed by August 22 (eighth day of fishery), 50% by September 6, and 90% by October 16.

The majority of the NSEI harvest continues to come from 2 statistical areas in central Chatham Straits, 345631 and 345701 (Table 3, Figure 9). Together, these areas accounted for 57% of the landed catch. Statarea 345603, which had experienced a decline in percent of harvest the last 2 years, showed a modest increase to the 2001 level. Statistical areas 345731 and 345803 in the north central portion of Chatham Straits together made up 21% of the harvest, which is similar to 1999-2002. The combined harvest from statistical areas 335701 and 345702, the two areas within the Frederick Sound portion of NSEI, showed a percentage of harvest of 11%, a notable increase from 1999-2002.

While the 2003 longline survey pounds-per-hook (not standardized for hook spacing) of 2.41 was up only moderately from the 2002 survey pounds-per-hook of 2.31 and was nearly unchanged from the 2001 survey pounds-per-hook of 2.42, the fishery pound-per-hook for 2003 showed a marked increase from 2002 which had been a notable increase from the 1999 through

2001 fishery pound-per-hook which was relatively flat (Richardson 2003, Figure 8). The overall CPUE (from all landings with complete logbook information) for the 2003 fishery was 0.75 round pounds-per-hook when standardized for hook spacing (0.83 not standardized) compared to 0.63 (0.70) in 2002, 0.50 (0.52) in 2001, 0.46 (0.51) in 2000 and 0.48 (0.52) in 1999. Over 94% of the hooks set in 2003 were set using conventional gear, which is consistent with the proportion of conventional gear used in 1999-2002. The remainder of the hooks set in the fishery were set using snap-on gear. If not standardized for hook spacing the average CPUEs from snap-on gear were higher in all years than the CPUEs from conventional gear because of the considerably wider hook spacing used with snap-on gear. The average hook spacing for snap-on gear in 2003 was 130 inches up from 115 inches in 2002, 90 inches in 2001, 101 inches in 2000 and 88 inches in 1999. The average hook spacing for conventional gear in 2003 was 51 inches, equal to the average spacing in 2002 and down from an average of 53 inches in 2001.

The primary landed bycatch in the 2003 NSEI sablefish fishery was shortspine thornyhead (*Sebastolobus alascanus*), followed by shortraker (*Sebastes borealis*) and rougheye (*Sebastes aleutianus*) rockfishes. Other bycatch species landed in minimal amounts included redbanded rockfish (*Sebastes babcocki*), Pacific cod (*Gadus macrocephalus*), yelloweye rockfish (*Sebastes ruberrimus*), quillback rockfish (*Sebastes maliger*), Dover sole (*Microstomus pacificus),* Pacific ocean perch (*Sebastes alutus*), silvergray rockfish (*Sebastes brevispinis*) dusky rockfish (*Sebastes ciliatus*), and tiger rockfish (*Sebastes nigrocinctus*). Skates (Rajidae), arrowtooth flounder (*Atheresthes stomias)* and Pacific sleeper sharks (*Somniosus pacificus*) are also taken as bycatch but were discarded at sea. Halibut are also taken in this fishery and are either landed as IPHC individual fishing quotas (IFQ) and technically considered a target species in a dual fishery or released at sea. The state does not retain records of halibut landings so the coincidental halibut harvest is not available.

Since July 2000, a full retention policy has been in place for inside state waters that requires all *Sebastes* rockfish to be landed and weighed. This requirement does not include shortspine thornyhead rockfish because they do not have a swim bladder and therefore do not incur embolism mortality. A total of 123,586 round pounds of bycatch was landed in the 2003 sablefish fishery, down from the 159,204 round pounds of bycatch landed in 2002. The primary landed bycatch, shortspine thornyheads comprised 69% of bycatch compared with 76% in 2002 and 68% percent in 2001. Shortraker and rougheye rockfishes accounted for 18,474 pounds and 14,300 pounds respectively. The landed bycatch of all species was approximately 6% of the total sablefish harvest compared with 8% in 2002, 11% in 2001 and 15% bycatch landed in 2000 (Table 4). The 58,096 pounds of thornyheads landed in 2003 resulted in a 17% decrease in the pound-per-hook for thornyheads of 0.032 (0.035 not standardized for hook spacing) when compared with 0.038 (0.042) in 2002. A portion of this decrease may be the result of the 19% increase this year in sablefish pounds-per-hook. If sablefish were considered the alpha predator then this higher sablefish pounds-per-hook would leave fewer hooks available for bycatch. The new regulation that prohibits directed fishing for thornyheads may also have affected the harvest of this species during the sablefish fishery, as permits holders were limited to the bycatch allowance.

Landings were made in Hoonah, Juneau, Petersburg, Sitka, Pelican, Ketchikan, Wrangell and Bellingham. The distribution of landings throughout the region remained relatively the same as

2002 with the addition of Pelican, Ketchikan and Wrangell buying sablefish and no fish being purchased in Kake. Landings were made outside of Southeast for the first time since 2000 with landings in Bellingham, Washington.

The NSEI sablefish fishery is important to the Southeast Alaska economy. Sablefish continue to be a high value fish. The average exvessel price reported at the time of landing for NSEI sablefish in 2003 was $2.39 per round pound which is similar to $2.40 in 2002 and up from $2.12 in 2001. This yielded an exvessel value in excess of 4.8 million dollars for the sablefish from the 2003 NSEI fishery.

2004 FISHERY OUTLOOK

The 2004 NSEI sablefish fishery will open August 15 and run through November 15. The Commercial Fisheries Entry Commission has 108 permit holders legal to fish during the 2004 season.

Biomass Estimate

The abundance of sablefish in the NSEI subdistrict was estimated using mark-recapture methods. The estimated abundance and 90% confidence interval were 2,774,712 and 2,594,939 – 2,978,433 sablefish[1]. An estimate of natural mortality (M=0.10) was decremented from the lower 90% confidence limit (2,594,939) of the 2003 abundance estimate and an estimate of Age 4 recruits to the fishery was added (equivalent to the estimated number of exploitable Age 4 fish in the 2003 population) to forecast the exploitable numbers and biomass of sablefish for 2004. The forecast for 2004 is 2,514,176 sablefish and 19,931,902 round pounds of sablefish.

Total Allowable Catch

The Total Allowable Catch (TAC) is the amount of sablefish that may be harvested and includes the directed fishery quota and an estimate of unreported mortality associated with the directed fishery and unreported mortality associated with other fisheries. The TAC is calculated by applying an $F_{40\%}$ (= 0.137) harvest rate to the lower bound of the biomass estimate. For 2004 the TAC is equal to 2,429,851 round pounds.

[1] Unpublished data from a stock assessment conducted by David Carlile, ADF&G (907) 465-4216.

Unreported Mortality

Sablefish are taken incidentally in fisheries for other species, most notably in the halibut longline fishery. There is no data available on the magnitude or mortality of these catches in the commercial fishery, therefore the IPHC halibut survey data from 2002 was used to estimate bycatch. For NSEI, this data showed an overall bycatch of 24% round pounds of sablefish to round pounds of halibut for halibut survey stations deeper than 100 fathoms. Commercial catch data provided by IPHC indicates that approximately 10% of the 2C halibut quota is taken in waters of NSEI in sets deeper than 100 fathoms. Estimation of the amount of sablefish bycatch in the directed commercial halibut fishery was estimated by multiplying ten percent of the proposed 2004 2C halibut quota (903,000 pounds) by the bycatch rate of 0.24. We assume that half of this bycatch is dead due to sandflea predation, hooking injuries, or use of sablefish as bait or homepack. For 2004, this amount is equal to 110,000 round pounds of sablefish.

Other known sources of sablefish mortality include bycatch in the crab fisheries, dead loss in the directed fishery, and personal and subsistence catches. Deadloss in the directed fishery may be the result of sandflea and shark predation, hooking injuries on released fish, and fish lost either before retrieval or because of lost gear. Although all of these mortalities are very difficult to quantify they need to be estimated in order to set the directed fishing quota. In 2003, ADF&G estimated that unreported mortality due to these sources accounted for 62,000 pounds of sablefish (approximately 3% of the exploitable biomass). There are several indications that these mortalities have increased. During 2003 the new halibut longline subsistence fishery became legal and there were many enquires regarding legal bycatch of sablefish for this fishery. There are no reporting requirements and these removals remain undocumented. Also, in 2003, for the first time, it was legal to release healthy sablefish when directed fishing. There had been some release of small fish prior to legalization of this practice and many fishermen believed that it was better for the resource to release small fish rather than harvest them. However, there were numerous reports of a few operators shaking large quantities of small fish without regard to the injuries sustained by these fish. Additionally, until July 18, 2003, when the use of sablefish as bait was prohibited, sablefish could legally be taken for use as bait from inside state waters. There was poor compliance with the reporting requirements and little bait use of sablefish was reported while anecdotal information suggests that sablefish were routinely used for bait. Although this use is now prohibited, it is expected that an unknown amount of sablefish continue to be used for bait. For these reasons, the estimated unreported mortality of sablefish in NSEI taken outside of the commercial halibut fishery in 2004 is estimated to be 75,000 round pounds.

Directed Fishery Quota

The directed fishery quota for the 2004 NSEI sablefish fishery is **2,245,000** round pounds, a 12% increase over 2002 and 2003. The individual equal quota share is **20,787** round pounds. The actual poundage allowed for each permit holder fishing in 2004 will be based on the 2004 EQS debited or credited by their legal overage/underage during the 2003 fishery.

Fishermen are advised that they will receive a certified letter from the Department of Fish and Game issuing their 2004 EQS adjustment.

PERMITS AND PAPERWORK NEEDED TO FISH IN NSEI SABLEFISH FISHERY

- CFEC limited entry permit card specific to the NSEI sablefish fishery.
- ADF&G vessel license.
- Vessel registration filed with ADF&G prior to fishing and kept onboard while fishing.
- Logbook completed daily, copies kept on board the vessel for the duration of the fishery, including a record of the round weight delivered to date if multiple deliveries are made per season. Logbook pages documenting the landing must be attached to the fish ticket at the time of landing. Use of ADF&G Logbooks is requested. ADF&G logbooks are available at ADF&G offices.
- Equal Quota Share Tracking Form with individual EQS adjustment for 2004, available at ADF&G office.

CFEC permit cards, emergency transfer requests, and ADF&G vessel registrations are available only from CFEC and not at ADF&G offices. Applications for these permits are available at ADF&G area offices or on the web at http://www.cfec.state.ak.us/.

DELIVERING FISH OUT OF STATE

Delivering fish out of state takes prior planning, well in advance of fishing, as several agencies and permits are required. In order to take unprocessed fish out of the state, an individual or company must have an exporter license. There are two different types of exporter licenses, buyer or catcher. The buyer can buy from fishers and export unprocessed fish while the catcher can only export their own catch. The Department of Revenue requires the exporter to be bonded and prepay taxes before they can operate. All processor and exporter applications are together in the "2004 Alaska Seafood Processor and Exporter License and Permit Application: Intent to Operate." The web link for this application is:

http://www.cf.adfg.state.ak.us/geninfo/permits/intent/instruct.pdf

Fishers are required to complete a fish ticket and a physical copy of the fish ticket must be provided to ADF&G before the vessel leaves the state. A completed fish ticket must include:

1. weight of each species with the corresponding condition (delivery) code (i.e., round, bled, headed and gutted etc),
2. an imprint of the valid CFEC gear card,
3. an imprint of a valid Alaskan processor code,
4. a breakdown by percentage of the groundfish statistical areas fished,
5. signatures of fishers and processor at bottom of fish ticket, and
6. a completed logbook documenting the trip must be attached to the ticket.

If fish weights are estimated on the above fish ticket, a completed fish ticket with final weights must be returned to ADF&G within 7 days of landing**.** If the processor is someone other than the fishers, ADF&G must have a letter authorizing the use of the Alaskan processor code used on the fish ticket before the fish ticket is completed and filed with the department.

SYNOPSIS OF REGULATIONS THAT PERTAIN TO THE NSEI SABLEFISH FISHERY

Several new regulations were imposed for this fishery at the 2003 Board of Fish Meeting. This synopsis includes regulations that are in effect as of August 15, 2003.

Commercial Fishery Regulations are available on the web at:

http://www.cf.adfg.state.ak.us/geninfo/regs/cf_regs.php

These statues and administrative regulations were excerpted from the official codes on file with the Lieutenant Governor. There may be errors or omissions that have not been identified and changes that occurred after this (paper) was written. This (synopsis) is intended as an informational guide only. To be certain of the current laws, refer to the official codes.

5 AAC 28.105. Description of Eastern Gulf of Alaska Area districts, subdistricts, sections, and sectors

> (2) Northern Southeast Inside (NSEI) Subdistrict: All waters of Frederick Sound, Stephens Passage, Lynn Canal, Icy Strait, Glacier Bay, Chatham Strait, and contiguous bays and inlets bordered by a line from Beacon Point to Wood Point, from Point Camden to Salt Point Light, the Cape Decision Light to a point west of Gish Bay at 55° 54.53' N. lat., 134° 12.50' W. long. to the southernmost tip of Helm Point to the westernmost tip of Hazy Island to the Cape Ommaney Light, north of 57° 30' N. lat. in Peril Straight, from the westernmost tip of Column Point to the northernmost tip of Soapstone Point and from the southernmost tip of Cape Spencer through Yakobi Rock to Yakobi Island;

5 AAC 28.106. Eastern Gulf of Alaska Area registration

(b) Notwithstanding 5 AAC 28.020(a), before a person uses a vessel to operate gear to take sablefish in the Northern Southeast Inside (NSEI) Subdistrict or the Southern Southeast Inside (SSEI) Subdistrict, the vessel owner, or the owner's agent, shall register the vessel with the department as follows:

> (1) the vessel must be registered before fishing in the sablefish fishery,

(2) the vessel owner, or the owner's agent, shall include on the registration form the vessel's name and the full name and CFEC permit number or interim use permit number of each sablefish permit holder who will be on board the vessel during the open fishing period,

(3) the vessel owner, or the owner's agent, shall sign the registration form,

(4) a person who holds a CFEC sablefish permit or interim use sablefish permit for the NSEI Subdistrict or for the SSEI Subdistrict may not register to fish on more than one vessel at a time,

(5) a separate registration is required for each subdistrict.

5 AAC 28.110. Sablefish fishing seasons for Eastern Gulf of Alaska Area

(a) In the Eastern Gulf of Alaska Area, sablefish may be taken only as follows:

(1) in the Northern Southeast Inside Subdistrict, from 8:00 a.m. August 15 until 12:00 noon November 15;

(c) Notwithstanding (a) of this section, sablefish may be taken outside of established seasons in order to provide information on stock condition and other research questions, as provided in this subsection. The commissioner shall request that permit holders who are interested in fishing outside of established seasons for that purpose notify the department. The commissioner will randomly select from those permit holders, and selected permit holders shall fish under terms specified by the commissioner.

5 AAC 28.130. Lawful gear for Eastern Gulf of Alaska Area

(a) In the Northern Southeast Inside Subdistrict, the Southeast Outside Subdistrict, and the East Yakutat District, sablefish may be taken only with longlines. In the Southern Southeast Inside Subdistrict, sablefish may be taken only with longlines and pots.

(b) In the Southeast District, a longline vessel may have aboard or use for taking bait a gillnet with mesh size of not over two and one-half inches and made of not greater than Number 20 gillnet thread.

5 AAC 28.160. Harvest guidelines and ranges for Eastern Gulf of Alaska Area.

(a) In the Northern Southeast Inside Subdistrict, the department will set the annual guideline harvest limit for the taking of sablefish based on information available to the department, including estimates of sablefish biomass.

5 AAC 28.170. Sablefish possession and landing requirements for Eastern Gulf of Alaska Area

(a) The operator of a vessel taking sablefish in the Northern or Southern Southeast Inside Subdistricts shall, before taking sablefish in another area, unload all sablefish taken in either subdistrict and submit a completed fish ticket to the department.

(b) The operator of a fishing vessel may not take sablefish in the Northern or Southern Inside Subdistricts with sablefish taken in another area on board.

(c) In the Northern and Southern Southeast Inside Subdistricts, and in the waters of Alaska within the Southeast Outside Subdistrict, a sablefish bearing a fisheries agency tag at the time of capture may be retained and sold at any time, if the fish is landed with the tag intact and the recovery is reported to the department at the time of landing. The tagged fish must be presented to a local representative of the department upon request.

(f) Except as provided in (j) of this section, in the Northern Southeast Inside Subdistrict, the holder of a CFEC permit or interim use permit for sablefish may not retain more sablefish in the directed fishery than the annual amount of sablefish equal quota share that is specified by the department. A permit holder must retain all visibly injured or dead sablefish. Sablefish that are not visibly injured or dead may be released unharmed, but the permit holder must record the live releases in a logbook by gear settings. The department shall determine the annual amount of sablefish equal quota share by dividing the annual harvest objective by the number of CFEC permits and interim use permits eligible to be fished in the fishery. The department shall use the best available information, including harvest rate and biological data, to set the annual harvest objective.

(i) When participating in the sablefish fishery in the Northern Southeast Inside Subdistrict or Southern Southeast Inside Subdistrict, a person holding a CFEC permit or interim use permit for that fishery must retain in the person's possession and present for inspection on board the vessel on which that person is registered to fish, a copy of each completed fish ticket issued to the person during the current season. The permit holder shall provide each buyer with the total round weight of sablefish that the permit holder has landed to date in the fishery for that year.

(j) If a permit holder’s harvest exceeds the permit holder's equal quota share established under (f) or (g) of this section for that year, by not more than five percent, the department shall reduce the permit holder's equal quota share for the following year by the amount of the overage or the permit holder may transfer inseason the overage to another permit holder who has not harvested that permit holder's full equal quota share. If the overage is transferred under this subsection, both permit holders shall record the transfer in the holder's logbook and in fish tickets. If a permit holder's harvest exceeds the permit holder's equal quota share by more than five percent, the proceeds from the sale of the overage in excess of five percent shall be surrendered to the state and the permit holder may be prosecuted under AS 16.05.723. The provisions of this subsection do not apply after May 30, 2006.

(k) If a permit holder's harvest is less than the permit holder's equal quota share established under (f) or (g) of this section for that year, by not more than five percent less than the permit holder equal quota share, the permit holders equal quota share will be adjusted for that amount the following year. The provisions of this subsection do not apply after May 30, 2006.

5 AAC 28.171. Rockfish possession and landing requirements for Eastern Gulf of Alaska Area

(a) In the Southeast District, a CFEC permit holder must retain, weigh, and report all demersal shelf rockfish taken. Except as provided in (b) of this section, all demersal shelf rockfish in excess of 10 percent, round weight, of all target species on board the vessel must be weighed and reported as bycatch overage on an ADF&G fish ticket. All proceeds from the sale of excess demersal shelf rockfish bycatch shall be surrendered to the state.

(c) The department may establish additional bycatch allowances by emergency order.

(f) In addition to the requirements of (a) of this section, the Northern Southeast Inside and Southern Southeast Inside Subdistricts, a CFEC permit holder must retain, weigh, and report all rockfish taken. All rockfish in excess of allowable bycatch limits shall be reported as bycatch overage on an ADF&G fish ticket. Any proceeds from the sale of excess rockfish bycatch shall be surrendered to the state.

(g) In the Eastern Gulf of Alaska Area, shortspine and longspine thornyheads, shortraker, rougheye, and redbanded rockfish may be taken only as bycatch.

5 AAC 28.174. Spiny dogfish (*Squalus acanthias*) possession and landing requirements for Eastern Gulf of Alaska Area

In the Eastern Gulf of Alaska Area, spiny dogfish may be taken and retained only as follows:

> (1) In the Southeast District, a longline vessel may retain spiny dogfish as bycatch that is not more than 35 percent, by round weight, of all target species taken in the directed fishery on board the vessel.

5 AAC 28.175. Logbooks for Eastern Gulf of Alaska Area

(a) An operator of a vessel fishing for groundfish in the waters of Alaska in the Eastern Gulf of Alaska Area or in a state-managed directed fishery in the waters of the exclusive economic zone adjacent to the Eastern Gulf of Alaska Area shall maintain an accurate logbook of all fishing operations for each type of gear used.

(b) A logbook described in (a) of this section

> (1) for longline gear must include, by set, the date, the specific location of harvest by latitude and longitude for start and ending positions, hook spacing, the amount of gear (number of hooks) used, the depth of each set, the estimated weight of all target species

taken, an estimated weight of the bycatch retained or discarded at sea, and the tag number of any tagged fish landed; for the Northern Southeast Inside Subdistrict and the Southern Southeast Inside Subdistrict sablefish fisheries, a logbook must include a record of the round weight delivered, the purchasing processor, and date of each delivery during that season if multiple landings have been made;

(3) must be updated, within 24 hours after midnight local time on the day of operation;

(4) must be retained, with its original pages, for a period of two years by the owner or operator of the vessel;

(5) must include the tag number of any tagged fish landed, with the date and specific location.

(c) A logbook described in (a) of this section must be kept on board the vessel while operating gear, during transits to or from a port of landing, and for five days after delivering groundfish.

(e) A logbook described in (a) of this section must be made available to a local representative of the department upon request.

(f) A copy of the page of the logbook described in (a) in this section pertaining to a landing must be attached to the fish ticket documenting the landing.

(g) A person may not make a false entry in the logbook described in (a) of this section.

5 AAC 28.180. Prohibitions for Eastern Gulf of Alaska Area

(a) A vessel or a person on board a vessel from which commercial, subsistence, or personal use longline fishing gear was used to take fish in the Northern or Southern Southeast Inside Subdistricts during the 72-hour period immediately before, or from which that gear will be used during the 24-hour period immediately after an open sablefish fishing period, may not participate in the taking of sablefish in either subdistrict during that open sablefish fishing period.

(b) Unless authorized by the terms of a scientific, propagative, or educational permit issued under AS 16.05.340 (b), a person may not possess groundfish in a manner that indicates an intent to keep the groundfish alive.

5 AAC 28.190. Harvest of bait by commercial permit holders in Eastern Gulf of Alaska Area

The holder of a valid CFEC interim use or limited entry permit may take groundfish in the waters of Alaska in the Eastern Gulf of Alaska Area for use as bait in the commercial fishery for which the permit is held as follows:

(1) except for sablefish, groundfish may be taken at any time; sablefish may not be taken for bait or used for bait;

(2) unless use of a gear is restricted in 5 AAC 27 - 5 AAC 39, groundfish may be taken by any gear specified in 5 AAC 39.105 except trawls;

(3) no more than 10 percent, by weight, of all other species of fish on board the vessel may be demersal shelf rockfish, and no more than 10 percent, by weight, of all other species of fish on board may be lingcod;

(4) a person on board a vessel used to take bait under the provisions of this section may not participate in the sablefish fishery if restricted by 5 AAC 28.180;

(5) a person who takes groundfish for bait during a fishing trip and uses the bait during that trip, must report the bait taken by species and estimated weight on a fish ticket prepared for that fishing trip; a person who makes a separate set to harvest groundfish for bait must report that harvest to the department on a fish ticket using the gear card for the species for which the bait was intended and must submit the fish ticket within seven days after landing that species;

(6) groundfish taken under this section may not be:

(A) purchased or sold; or

(B) transported outside of the waters of Alaska in the Eastern Gulf of Alaska Area.

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Table 1. NSEI sablefish fishery harvest limit, fleet size, catch and price from the fish ticket database, 1969–2003.

Year	Annual harvest objective (AHO)	Number of permits in directed fishery [a]	Round pounds sablefish removed from NSEI in directed fishery [b]	Number of vessels	Price per round pound for NSEI [c]
1969			400,521		
1970			421,344		
1971			315,692		
1972			1,089,150		
1973			977,995		
1974			815,731		
1975		110	984,179		
1976		125	970,313		
1977		95	559,031		$0.70
1978		80	788,523		$0.72
1979		110	1,190,356		$0.76
1980		65	881,469		$0.42
1981		53	710,147		$0.58
1982		46	804,004		
1983		68	1,165,871		
1984		86	1,329,072		$0.25
1985		105	2,951,056	107	
1986		138	3,874,269	144	$0.74
1987		158	3,861,546	163	$0.91
1988		149	4,206,509	147	$1.08
1989		151	3,767,518	149	$0.77
1990		121	3,281,393	119	$1.08
1991		127	3,955,189	122	$1.74
1992		115	4,267,781	115	$1.15
1993		120	5,795,974	114	$0.97
1994	4,761,905	121	4,713,552	112	$1.94
1995	4,761,905	121	4,542,348	116	$1.70
1996	4,761,905	121	4,673,701	118	$2.12
1997	4,800,000	122	4,753,394	111	$2.43
1998	4,800,000	116	4,688,008	106	$1.57
1999	3,120,000	112	3,043,273	98	$2.18
2000	3,120,000	111	3,082,159	93	$2.40
2001	2,184,000	111	2,142,617	87	$2.13
2002	2,005,000	109	2,009,380	86	$2.40
2003	2,005,000	108	2,001,643	88	$2.39

[a] Prior to 1985 there was not a NSEI sablefish permit card so the number of permits includes sablefish landings made on mixed gear and permit cards, B (halibut) permits, C (sablefish) permits, M (misc. fin) and a few S (salmon). Permit cards were not issued prior to 1975.

[b] Fish ticket data prior to 1985 was entered onto the database without a dress (condition) code. It is unclear if these landings were converted to round pounds before being entered.

[c] Based on price recorded on fish ticket at time of landing. No adjustment payments are included and coop prices are preliminary.

Table 2. NSEI sablefish fishery harvest objectives, management actions, survey design changes, dockside data, and seasons, 1867–2003. (page 1 of 5)

YEAR	Guideline Harvest Range	Harvest Objective (round weight)	Per Share Quota (round weight)	Season	Dates Fishery Open	Management Actions	NSEI Survey Design Changes	Dock-Side Data
1867	no quota				year round	Federal management of Alaskan fisheries began with the purchase of the Alaskan Territory.		
1871	"				"	US Commission of Fish and Fisheries established.		
1903	"				"	US Bureau of Fisheries established.		
1906	"				"	An Act for the Preservation and Regulation of the Fisheries of Alaska enacted.		First landing records available
1932-1944	"				"			Vessel logs maintained
1945-1946	"			03/16-11/30	03/16-11/30			"
1947-1958	"			05/01-11/30	05/01-11/30		Alaska Department of Fishery first tagged in March, October, and November 1951; tagged 989. Again in 1952; tagged 2,909.	"
1959	"			"	"	Alaska Statehood. Fisheries management transferred to the state. BOF maintained regulations already in place in 1959.		"
1960	"			"	"			Vessel logbook program discontinued. No monitoring of fishery performance 1960-1978.
1961-1962	"							
1963-1969	"			08/15-10/15	08/15-10/15			
1970-1971	"			09/15-11/15	09/15-11/15	1970 pot gear first allowed.		
1972	"			09/01-11/15	09/01-11/15	Incidental catch allowance was reduced to 20% in 1972.		
1973	1,000,000 dr			"	EO	Quota requested by industry. Fishery closed by Emergency Order.		
1974-1975	"			"	09/01-11/15			
1976	"			"	"	Magnuson Fisheries Conservation and Management Act (MFCMA).		
1977	"			"	"			

Table 2. NSEI sablefish fishery harvest objectives, management actions, survey design changes, dockside data, and seasons, 1867–2003. (page 2 of 5)

YEAR	Guideline Harvest Range	Harvest Objective (round weight)	Per Share Quota (round weight)	Season	Dates Fishery Open	Management Actions	NSEI Survey Design Changes	Dock-Side Data
1978	"			"	"	Voluntary agreement by Japanese North Pacific Longline-Gillnet Association to voluntarily withdraw from the area east of Yakutat Bay. Sablefish became prohibited species in US fisheries for other species.		1978 NMFS and ALFA introduce cooperative voluntary logbook program.
1979	850,000 dr			"	EO	Southeast Groundfish Project established. Quota reduced by department recommendation to account for portion of previous quota that came from outside waters. Season closed by Emergency Order. Closure to foreign fishing enforced by Federal Regulation.	Released 37 tagged sablefish on ADFG crab survey. 07/20/79-07/19/79	
1980	500,000-900,000 dr			"	09/01-11/15	GHR by department recommendation based on annual harvest from previous 10 years and allowing two standard deviations from mean to determine range. Registration 72 hours prior to fishing instituted for all vessels in NSEI by phone, in person, by radio. Difficult to enforce. Repealed in 1985.	No ADFG sablefish survey.	Voluntary skipper interviews for trips
1981	"			"	09/01-10/10	Fishery closed by Emergency Order.	Non-standardized survey. Sablefish pot survey w/ *R/V Stellar* included tagging, stomach content study and subsample from lengths and weights. 05/20/81-05/29/81.	"
1982	300,00-900,000 dr			"	09/01-09/15	Lower end of GHR reduced. Pot gear no longer allowed in NSEI. Fishery restricted to longline only. Fishery closed by EO.	No ADFG sablefish survey.	"
1983	"			"	09/01-09/07 & 10/10-10/14	Fishery openings set by EO.	"	"
1984	"			"	01/01-03/03 & 09/01-09/05	Groundfish management within the intrusion areas beyond the three-mile territorial limit was formally conveyed to the state through an amendment to the MFCMA.(01/01-03/03 open period represents landings in this intrusion area during federal opening). Fishery openings set by EO.	"	"

Table 2. NSEI sablefish fishery harvest objectives, management actions, survey design changes, dockside data, and seasons, 1867–2003. (page 3 of 5)

YEAR	Guideline Harvest Range	Harvest Objective (round weight)	Per Share Quota (round weight)	Season	Dates Fishery Open	Management Actions	NSEI Survey Design Changes	Dock-Side Data
1985	500-1,500,000 dr			"	09/04-09/05 & 10/04-10/06	Limited Entry program adopted for this fishery. First year Chatham specific CFEC permits were issued (ie C61A). Vessel operators who could demonstrate landing during a regular season prior to December 31, 1984 were eligible to apply for permits. Registration requirement was repealed. GHR increased. Groundfish went from 5 digit salmon statistical areas to current 6 digit groundfish statistical areas. Mgt area boundaries remained the same. Regulation initiated to require unloading sablefish prior to fishing sablefish in NSEI and unloading after NSEI prior to fishing another area. Fishery openings set by EO.	Non-standardized survey. Commercial vessel released 538 tags. 12/20/85, 1 day.	"
1986	"			"	09/09-09/11	No gear in water 72 hour prior and 24 hr after rule in regulation. Fishery set by EO.	Non-standardized survey. Commercial vessel w/ conventional gear released 3,126 tags. 1/20/86-02/04/86.	"
1987	"			"	09/15-09/16	Begin 24 hour opening by EO.	No ADFG survey.	"
1988	"			"	09/19-09/20		Begin annual longline surveys using a commercial vessel, snap gear, approx 2 weeks, 1000 hooks per station, 1 hour soak, herring for bait, 3-meters spacing, vessel's gear, 24 stations in 3 major statistical areas, tagged sablefish every third station. Subsample 10% for AWL. 08/14/88-08/26/88.	"
1989	"			"	09/22-09/23	NSEI management area 1st described in Regulations, previously described as the northern sablefish area. Bait regulations instituted, includes sablefish as bait, up to 2,000 pounds allowed annually, more with a permit.	2nd year annual survey. Decreased hooks to 500 per station. No tagging. Increased stations to 44 in same survey area. 08/07/89-08/25/89. Cooperative survey including tagging with NMFS on Townsend Cromwell.	"
1990	"			"	09/12-09/13		3rd year annual survey. Vessel's gear include swivel hooks and beads. Set 40 stations. 08/26/90-09/10/90.	"

Table 2. NSEI sablefish fishery harvest objectives, management actions, survey design changes, dockside data, and seasons, 1867–2003. (page 4 of 5)

YEAR	Guideline Harvest Range	Harvest Objective (round weight)	Per Share Quota (round weight)	Season	Dates Fishery Open	Management Actions	NSEI Survey Design Changes	Dock-Side Data
1991	"			"	09/16-09/17	Changed stat area line between Frederick Sound and Chatham Strait.	4th year annual survey. Began using weight of 2.26 kg every 100 hooks. Used ADFG vessel *R/V Stellar* and ADFG standardized snap gear. 08/13/91-08/30/91.	"
1992	"			"	09/17-09/18		5th year annual survey. Used commercial vessel and both commercial gear and ADFG gear. 08/17/92-08/31/92.	"
1993	"			"	09/25-09/26		6th year annual survey. First year using ADFG vessel *R/V Medeia* with ADFG gear. Decreased survey to 38 stations. 08/23/93-09/08/93.	"
1994	1,000,000-3,000,000 dr	4,761,905	38,889	"	09/22-10/22	First year of 3 year trial quota-share system. Regulations specify a single 30 day during 09/01-11/15 season. GHR increased and capped at 3,000,000 dr pounds. Annual harvest limit to be set within the GHR based on survey information and is to be divided equally among all eligible permit holders. Written registration required prior to 1 week before season opens. Allow retention of tagged sablefish. Sablefish taken for use as bait must be "mutilated". Sablefish taken as bait must be reported on ADFG fish tickets.	7th year of annual survey. No change from 1993. 08/23/94-09/05/94.	"
1995	"	"	"	"	09/13-10/13	In person written registration required prior to fishing. Applied .63 conversion to dressed wt for vessels landing in round.	8th year of annual survey. Only set 30 stations with ADFG snap gear, one hour soak, and herring. Set 30 sets right next to these sets using 3-hour soak (6 of these sets using conventional gear), and squid. 08/23/95-09/08/95.	"
1996	"	"	"	"	09/08-11/08	Season extended to 60 days.	9th year of annual survey. Same design as 1993-1994. 08/17/96-08/31/96. In addition, the *F/V Ida June* made 16 conventional sets independent of the survey during the same time period to assess using commercial vessels and conventional gear and squid for future surveys.	"

Table 2. NSEI sablefish fishery harvest objectives, management actions, survey design changes, dockside data, and seasons, 1867–2003. (page 5 of 5)

YEAR	Guideline Harvest Range	Harvest Objective (round weight)	Per Share Quota (round weight)	Season	Dates Fishery Open	Management Actions	NSEI Survey Design Changes	Dock-Side Data
1997	1,590,000-4,800,000 rnd	4,800,000	39,300	"	09/01-11/15	BOF decision to make permanent the quota share system after first 3 years of trial system. Initiated sablefish management based on round weight (.63 conversion to be used from Eastern cut to round weights). Instituted confidential logbooks requirement for each trip (to be attached to fish tickets at time of landing). Season set in regulation as entire period September 1 - November 15.	10th year of annual survey however with major changes. Used 3 commercial vessels fishing concurrently, approx 1 week duration, vessel's conventional gear, *illex* squid as bait, approx 1100 hooks per set, 3-11 hour soak time, approx 2 meter spacing. Increased area of survey by adding 7 stations on the south in 345603. Began tagging, tagging a portion of the stations. Sampled approx 5% for AWL. 08/07/97-08/13/97.	Mandatory logbooks required
1998	"	"	41,700	"	"		11th year of annual survey. No changes from 1997. 08/13/98-08/19/98.	"
1999	"	3,120,000	28,000	"	"	Harvest Objective decreased 35%.	12th year of annual survey. Used only 2 instead of 3 vessels this year to complete survey. Tagged. Did not use tentacles on squid. 08/15/99-08/23/99.	"
2000	"	"	28,600	"	"	EYAK was deleted from 72-24 hr rule. Full retention of all rockfish (not including thornyheads) in inside waters in effect July 5th. CFEC review of optimum number of permits (re) confirmed 73 as optimum number.	13th year of annual survey. Returned to 3 vessels. Began using ADFG standardized gear. Did not tag. 08/16/00-08/23/00. First year of marking (tagging) with commercial pot vessel in 3 statistical areas.	Fishery lengths Mandatory logbooks required Dockside observation for clips
2001	"	2,184,000	19,600	"	"	Sablefish harvest objective was decreased 30% from year 2000 to 2,184,000 for 2001 with notification of indications showing further cut necessary to 1,700,000 for 2002. Public meetings were held in Petersburg, Sitka and Juneau.	14th year of annual survey. No changes from 2000 except for timing. 08/08/01-08/13/01. Second year of marking (both tags and only clips) with commercial pot vessel in 4 statistical areas.	"
2002	"	2,005,000	18,400	"	"	Outside Review Panel of fishery experts met in February to assess NSEI stock assessment program. Lowered AHO 8% based on a harvest rate applied to a mark-recapture estimate of biomass.	15th year of annual longline survey-no changes to the survey design. Third year of marking (tags only, no tail clips) with commercial pot vessel in 4 statistical areas.	Fishery lengths and additional age, length, weight, sex and maturity samples Mandatory logbooks required No dockside observation for clips
2003	Eliminated	2,005,000	18,565	08/15-11/15	08/15-11/15	2003 BOF changes included allowing carry over up to 5% over or under and transferring fish. Allow discarding of healthy fish. Tighten logbook reporting requirements. Opening date changed. Allow fishing out of season. Prohibit use as bait.	16th year of annual longline survey-no changes to the survey design. Fourth year of marking (w/ tags and upper caudal clip on same fish) with commercial pot vessel in 6 statistical areas.	Age, length, weight, sex and maturity samples Mandatory logbooks required Dockside observation for clips

dr=dressed weight
rnd= round weight

Table 3. Distribution of NSEI sablefish fishery harvest (percentage) by statistical area and year, 1999–2003.

Statistical Area	1999	2000	2001	2002	2003
335701	2.2%	2.9%	1.7%	2.1%	1.7%
335731	0.0%	0.0%	0.0%	0.0%	0.0%
335732	0.0%	0.0%	0.0%	0.1%	0.0%
345534	0.1%	0.0%	0.0%	0.1%	0.0%
345603	18.3%	20.6%	11.7%	8.8%	11.1%
345631	25.5%	28.4%	29.8%	30.7%	28.0%
345701	30.1%	28.1%	31.1%	33.3%	29.0%
345702	3.4%	4.5%	5.6%	5.4%	9.0%
345705	0.0%	0.0%	0.0%	0.0%	0.0%
345706	0.0%	0.0%	0.0%	0.0%	0.1%
345731	10.4%	8.3%	12.3%	10.6%	9.6%
345803	9.7%	7.0%	7.5%	8.7%	11.5%
355801	0.2%	0.1%	0.2%	0.2%	0.0%
355830	0.1%	0.0%	0.0%	0.0%	0.0%
365804	0.0%	0.0%	0.0%	0.0%	0.0%

Table 4. NSEI sablefish fishery landed bycatch of other species compared to landed sablefish.

For 2000–2001 the data is for only landings with logbooks, in 2002-2003 it is the total of bycatch species landed in conjunction with the fishery, including that landed on halibut permits.

	2000		2001		2002		2003	
Species	**Round pounds landed**	**% of sablefish**	**Round pounds landed**	**% of sablefish**	**Round pounds landed**	**% of sablefish**	**Round pounds landed**	**% of sablefish**
Sablefish	3,061,734		2,124,700		2,009,380		2,001,643	
Yelloweye rockfish	877	0.03%	293	0.01%	1,853	0.1%	1,425	0.1%
Shortspine thornyhea	257,664	8.42%	151,572	7.13%	121,676	6.1%	85,096	4.3%
Rougheye rockfish	45,342	1.48%	27,944	1.32%	10,343	0.5%	14,300	0.7%
Shortraker rockfish	136,417	4.46%	35,077	1.65%	21,009	1.0%	18,474	0.9%
Redbanded rockfish	6,614	0.22%	4,211	0.20%	2,112	0.1%	2,113	0.1%
Spiny dogfish	0		0		0		0	
Arrowtooth flounder	18	0.00%	920	0.04%	0		0	
Pacific cod	5,664	0.18%	3,749	0.18%	508	0.0%	1,541	0.1%
Unspecified slope ro	1,193	0.04%	0		2,286	0.1%	0	
Quillback rockfish	61	0.00%	26	0.00%	28	0.0%	252	0.0%
Dover sole							239	0.0%
Dusky rockfish							7	0.0%
Pacific ocean perch							104	0.0%
Silvergray rockfish							34	0.0%
Tiger rockfish							3	0.0%
Bycatch species as % of sablefisl		14.82%		10.53%		8.0%		6.2%
Sum of bycatch (all NSEI related fishticket for 2002 and 2003)					159,815		123,588	

Prior to 2002 bycatch fishtickt catch numbers only for trips with logs

Figure 1. Adult sablefish. Photo by Pat Malecha, NMFS.

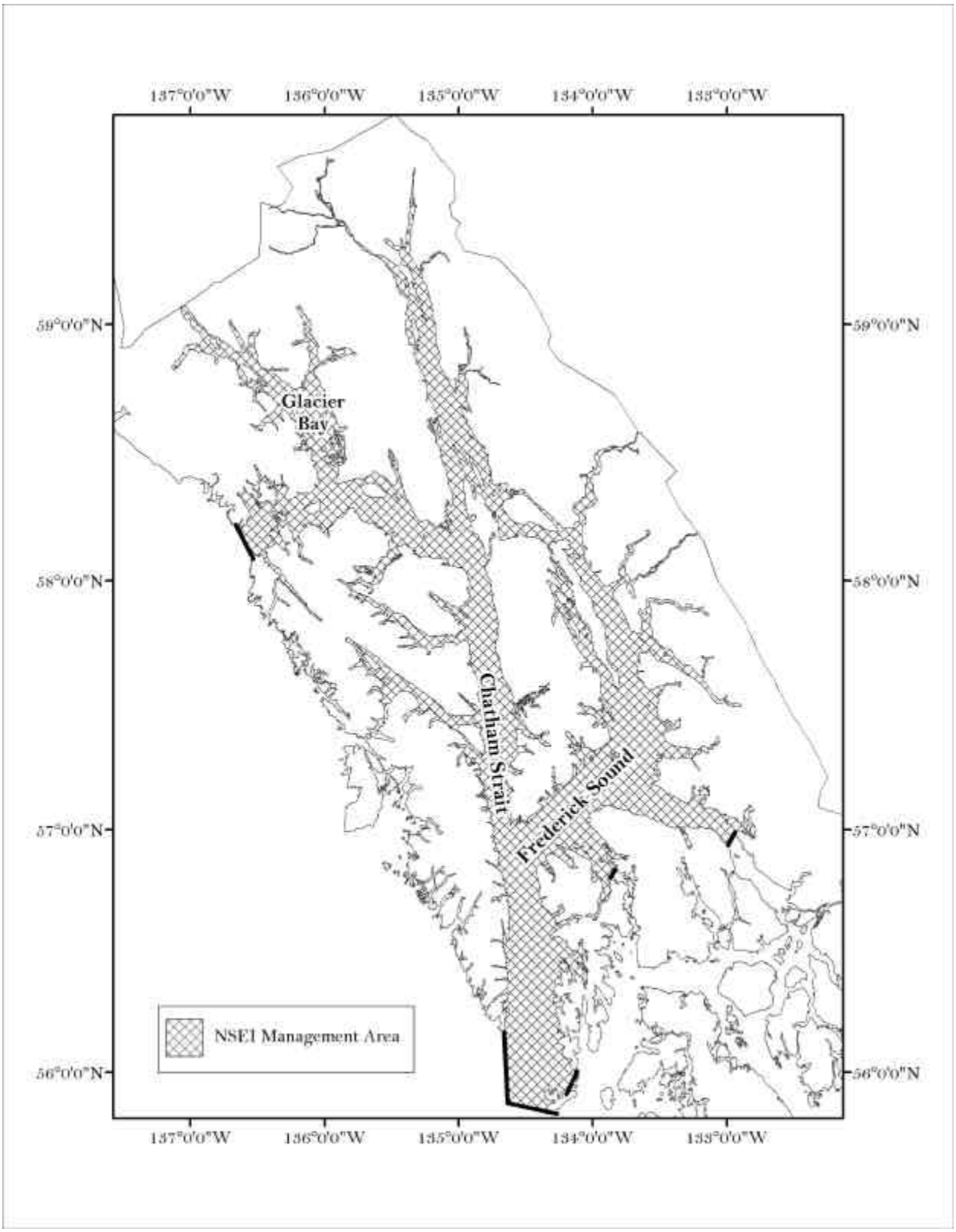

Figure 2. Northern Southeast Inside (NSEI) Subdistrict.

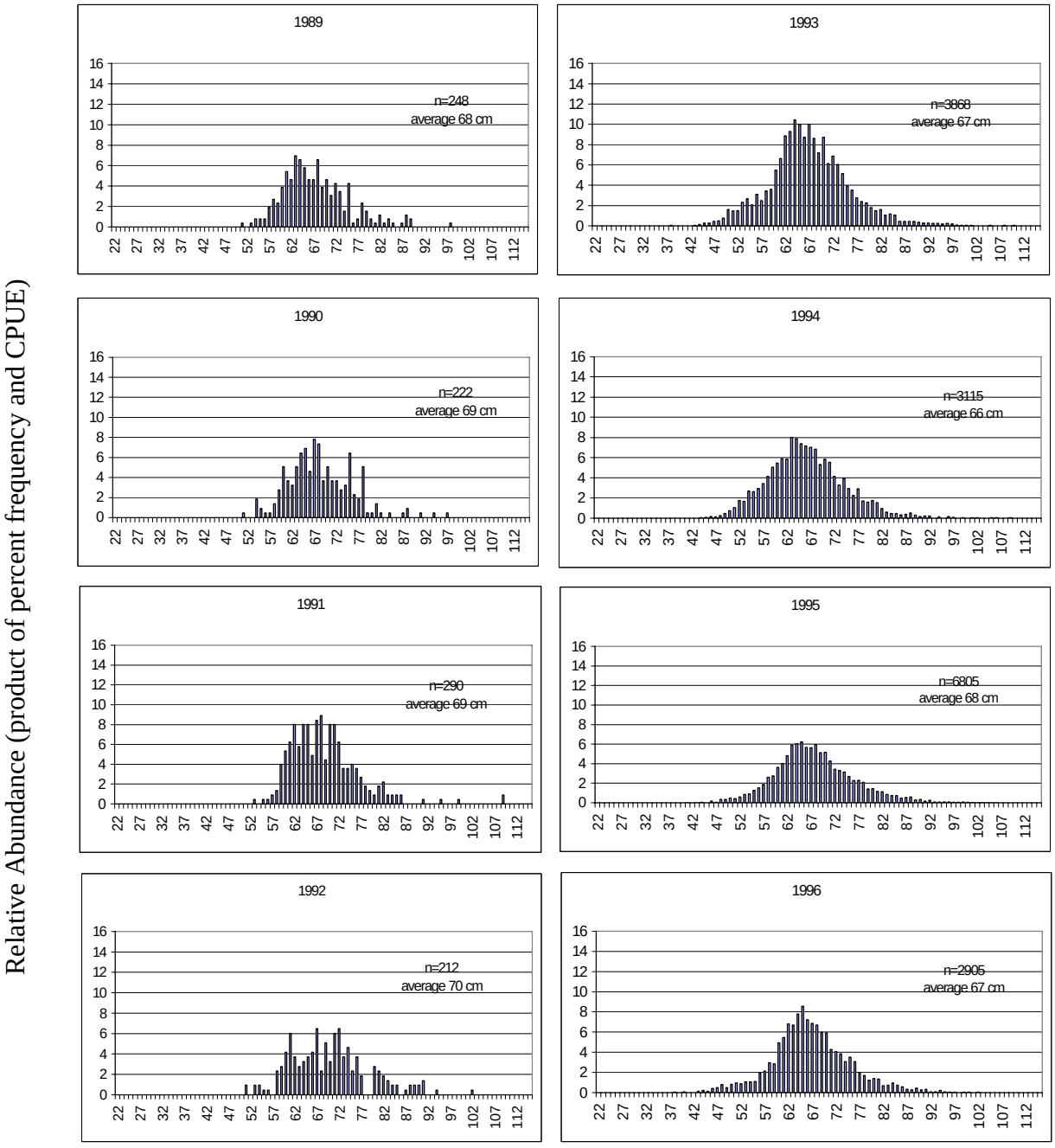

Figure 3. NSEI sablefish relative abundance (the product of the length frequency distributions and survey catch per unit effort in round pound-per-hook) from annual longline research survey samples, 1989–2003.

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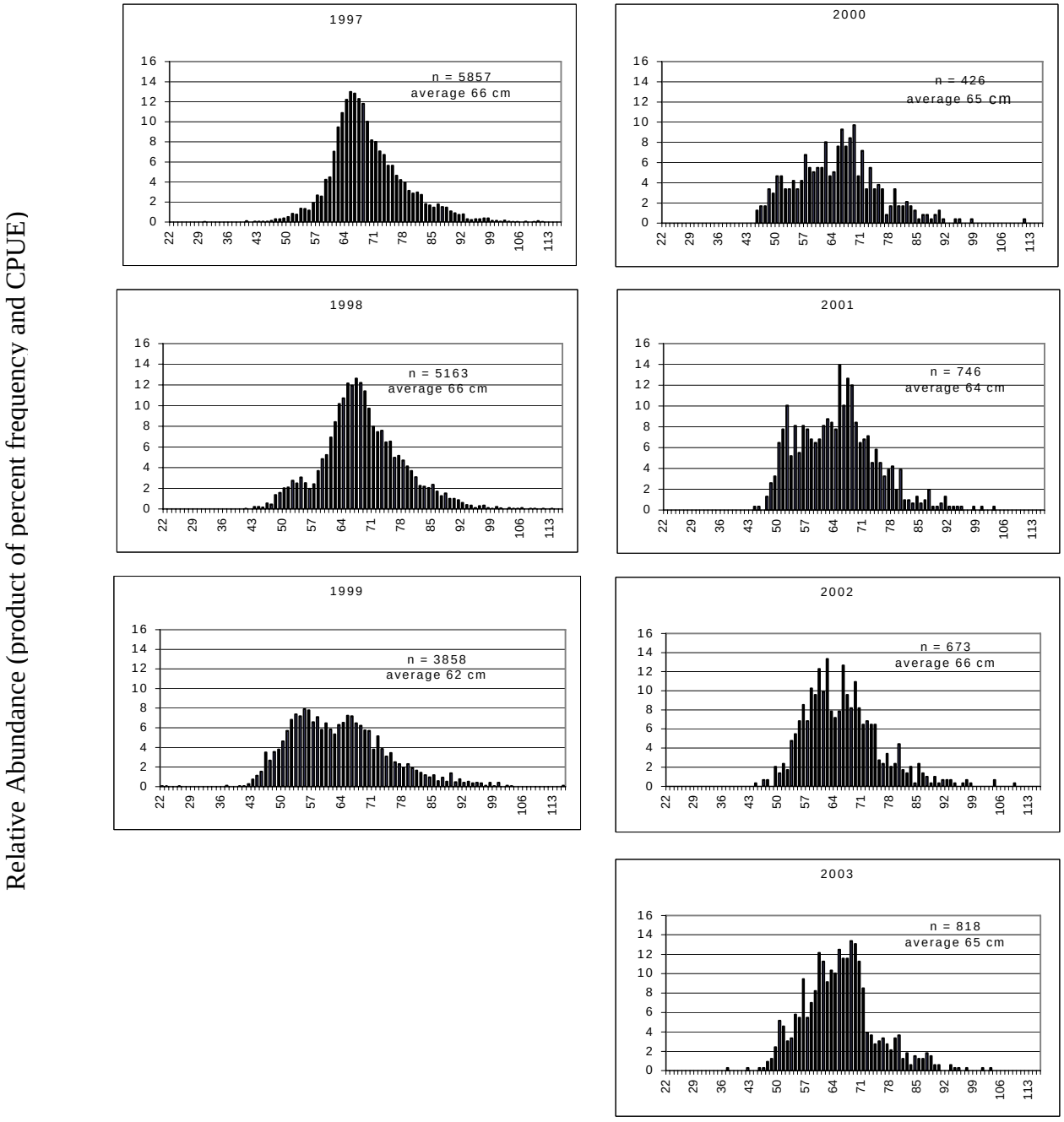

Figure 3 (cont.). NSEI sablefish relative abundance (the product of the length frequency distributions and survey catch per unit effort in round pound-per-hook) from annual longline research survey samples, 1989–2003.

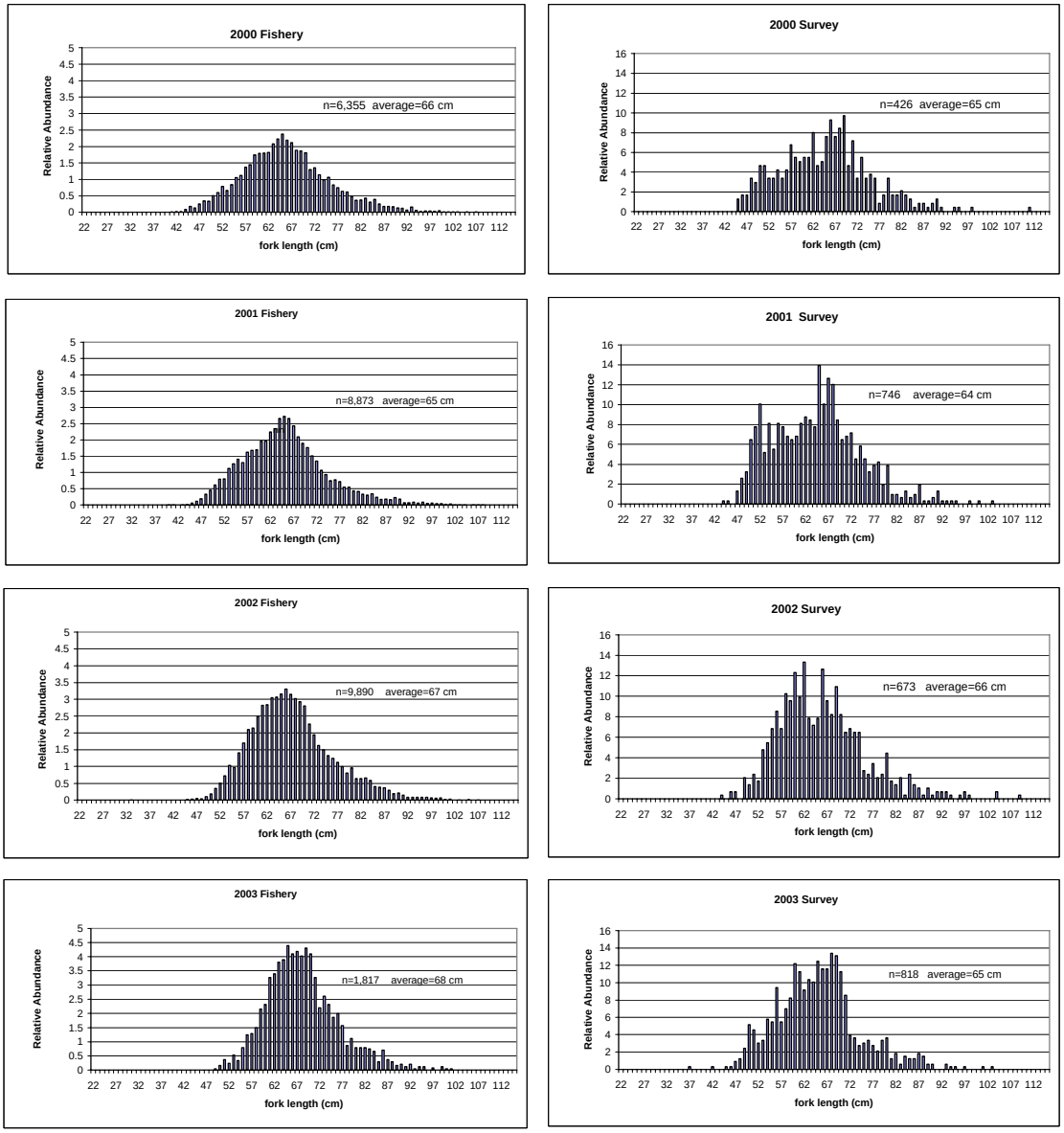

Figure 4. NSEI relative abundance (product of length frequency distribution and round pound-per-hook) for sablefish port samples compared to annual longline research survey samples, 2000–2003. The pounds-per-hook for the fishery have been standardized for hook spacing and the survey pounds-per-hook have not.

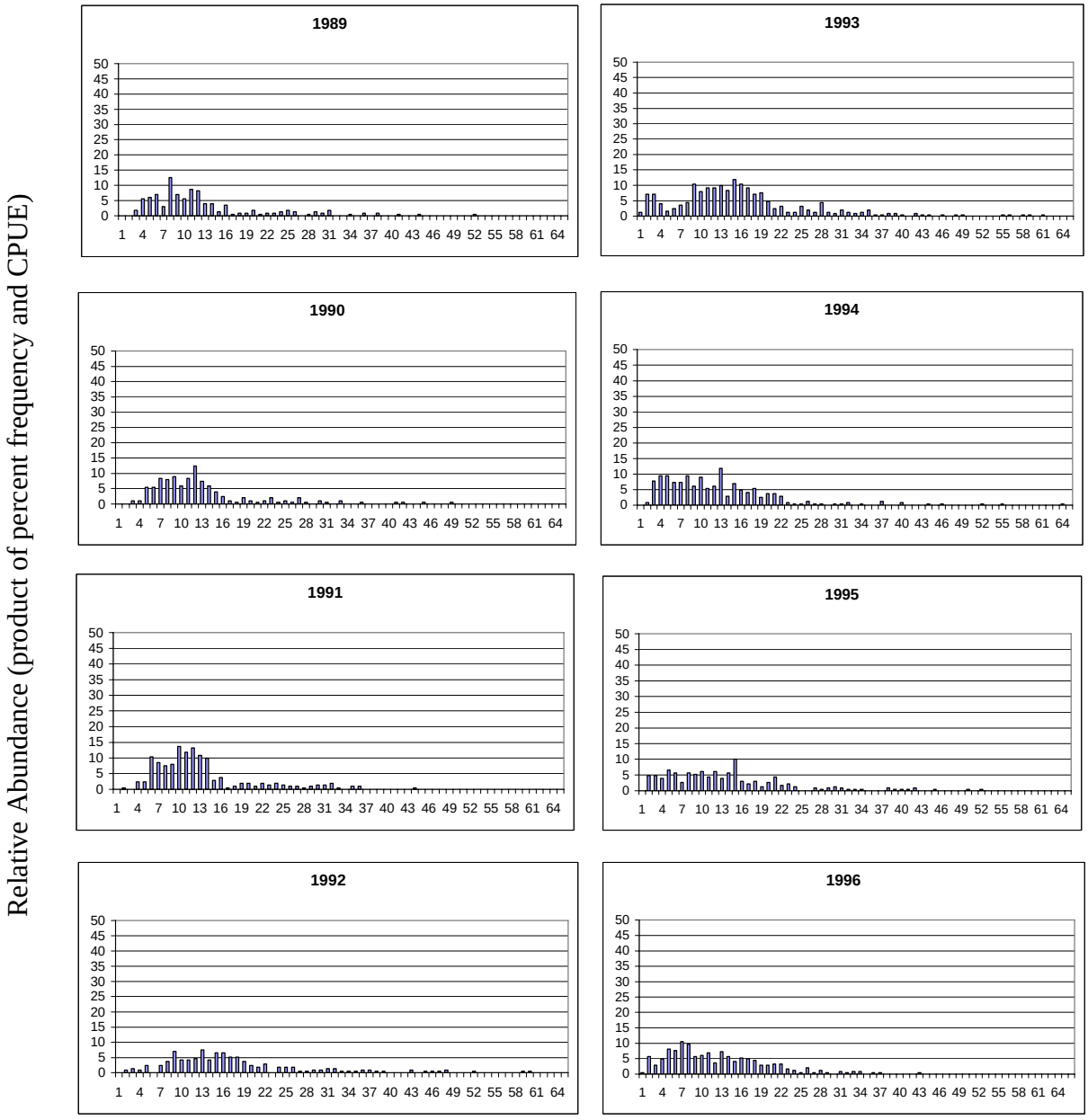

Figure 5. NSEI sablefish relative abundance (the product of the age frequency distributions and survey catch per unit effort in round pound-per-hook) by year, collected from annual longline research surveys, 1989–2003.

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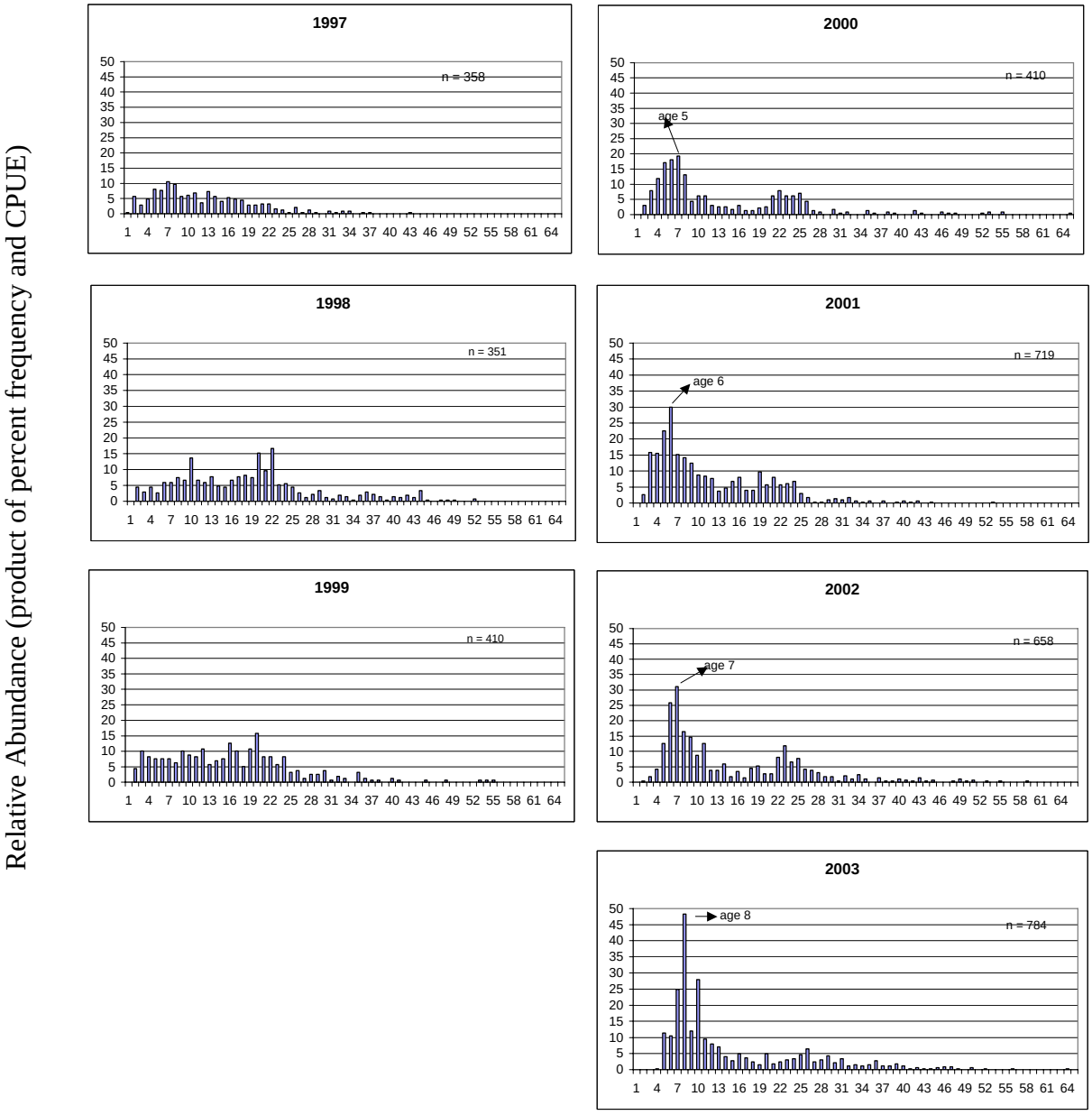


Figure 5 (cont.). NSEI sablefish relative abundance (the product of the age frequency distributions and survey catch per unit effort in round pound-per-hook) by year, collected from annual longline research surveys, 1989–2003.

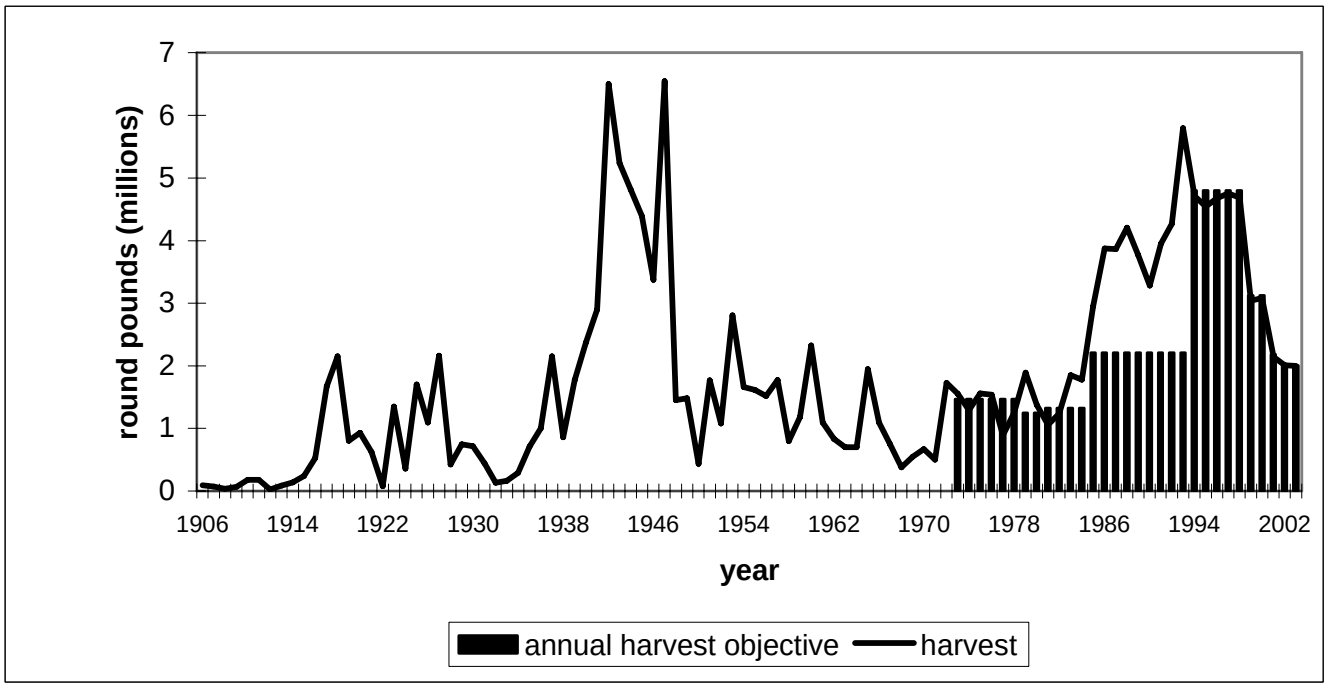
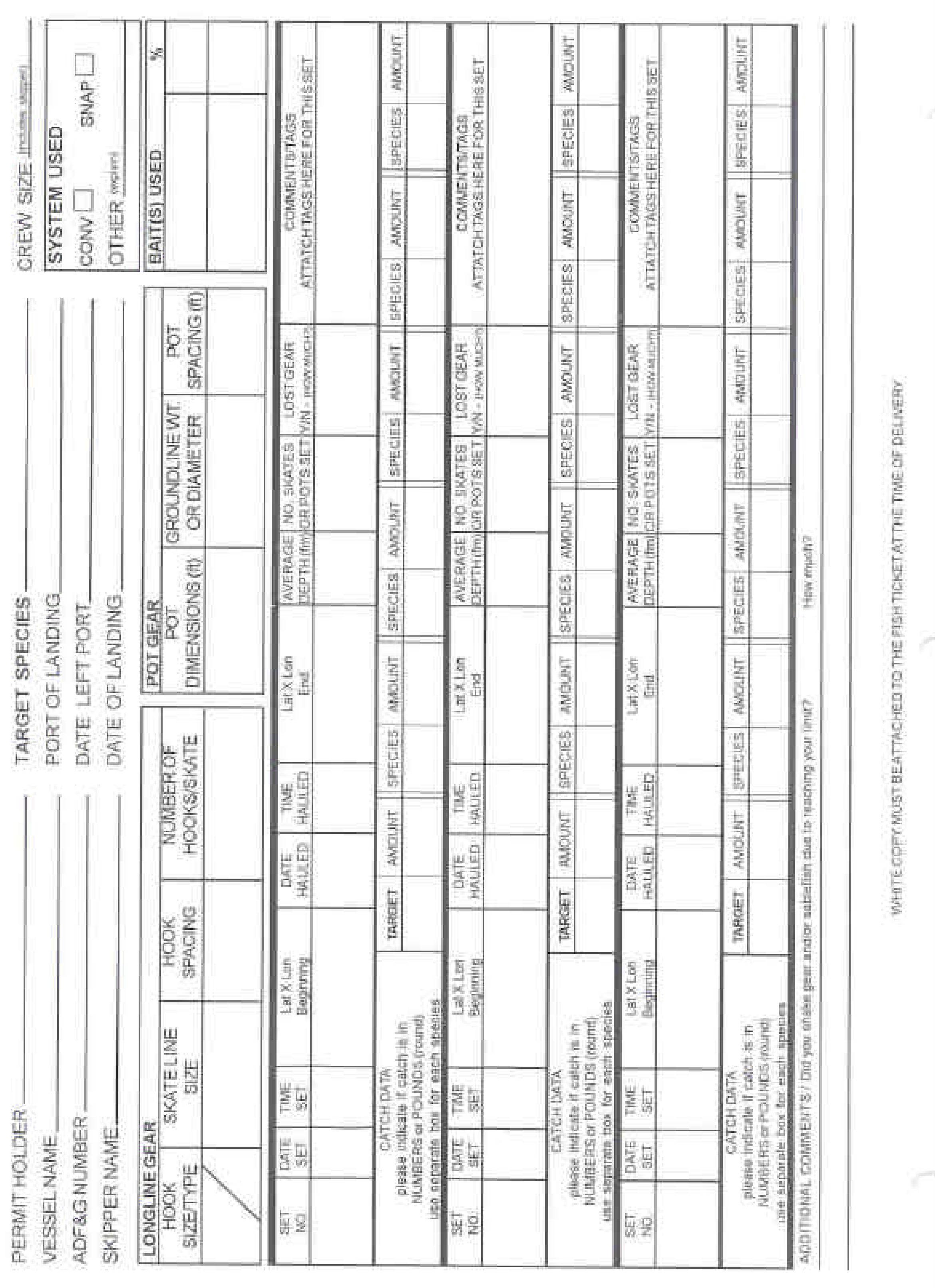


Figure 6. NSEI sablefish fishery recorded harvests and annual harvest objectives in round pounds, 1906–2003.



ADF&G LONGLINE - POT FISHERY LOGBOOK

PERMIT HOLDER ____ TARGET SPECIES ____ CREW SIZE (includes skipper) ____
VESSEL NAME ____ PORT OF LANDING ____
ADF&G NUMBER ____ DATE LEFT PORT ____
SKIPPER NAME ____ DATE OF LANDING ____

SYSTEM USED: CONV ☐ SNAP ☐ OTHER (explain) ____

LONGLINE GEAR				POT GEAR			BAIT(S) USED	%
HOOK SIZE/TYPE	SKATE LINE SIZE	HOOK SPACING	NUMBER OF HOOKS/SKATE	POT DIMENSIONS (ft)	GROUNDLINE WT. OR DIAMETER	POT SPACING (ft)		

SET NO.	DATE SET	TIME SET	Lat X Lon Beginning	DATE HAULED	TIME HAULED	Lat X Lon End	AVERAGE DEPTH (fm)	NO. SKATES OR POTS SET	LOST GEAR Y/N - (HOW MUCH?)	COMMENTS/TAGS ATTATCH TAGS HERE FOR THIS SET

CATCH DATA please indicate if catch is in NUMBERS or POUNDS (round) use separate box for each species	TARGET	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT

SET NO.	DATE SET	TIME SET	Lat X Lon Beginning	DATE HAULED	TIME HAULED	Lat X Lon End	AVERAGE DEPTH (fm)	NO. SKATES OR POTS SET	LOST GEAR Y/N - (HOW MUCH?)	COMMENTS/TAGS ATTATCH TAGS HERE FOR THIS SET

CATCH DATA please indicate if catch is in NUMBERS or POUNDS (round) use separate box for each species	TARGET	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT

SET NO.	DATE SET	TIME SET	Lat X Lon Beginning	DATE HAULED	TIME HAULED	Lat X Lon End	AVERAGE DEPTH (fm)	NO. SKATES OR POTS SET	LOST GEAR Y/N - (HOW MUCH?)	COMMENTS/TAGS ATTATCH TAGS HERE FOR THIS SET

CATCH DATA please indicate if catch is in NUMBERS or POUNDS (round) use separate box for each species	TARGET	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT	SPECIES	AMOUNT

ADDITIONAL COMMENTS / Did you shake gear and/or sablefish due to reaching your limit? How much?

WHITE COPY MUST BE ATTACHED TO THE FISH TICKET AT THE TIME OF DELIVERY

Figure 7. Commercial logbook page.

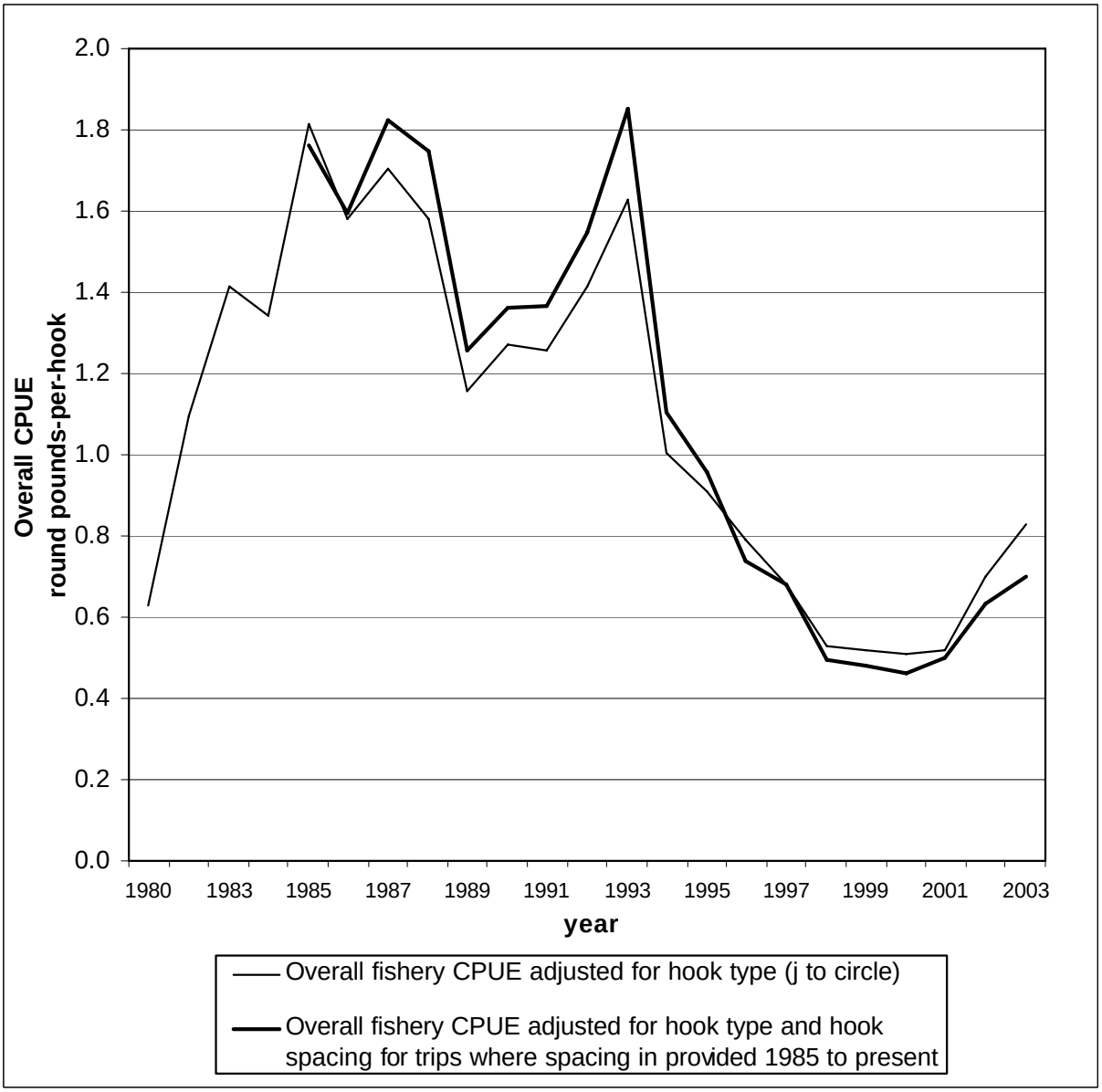


Figure 8. NSEI sablefish fishery CPUE (fleet overall) with gear adjustments, in round-pounds-per hook, 1980–2003.

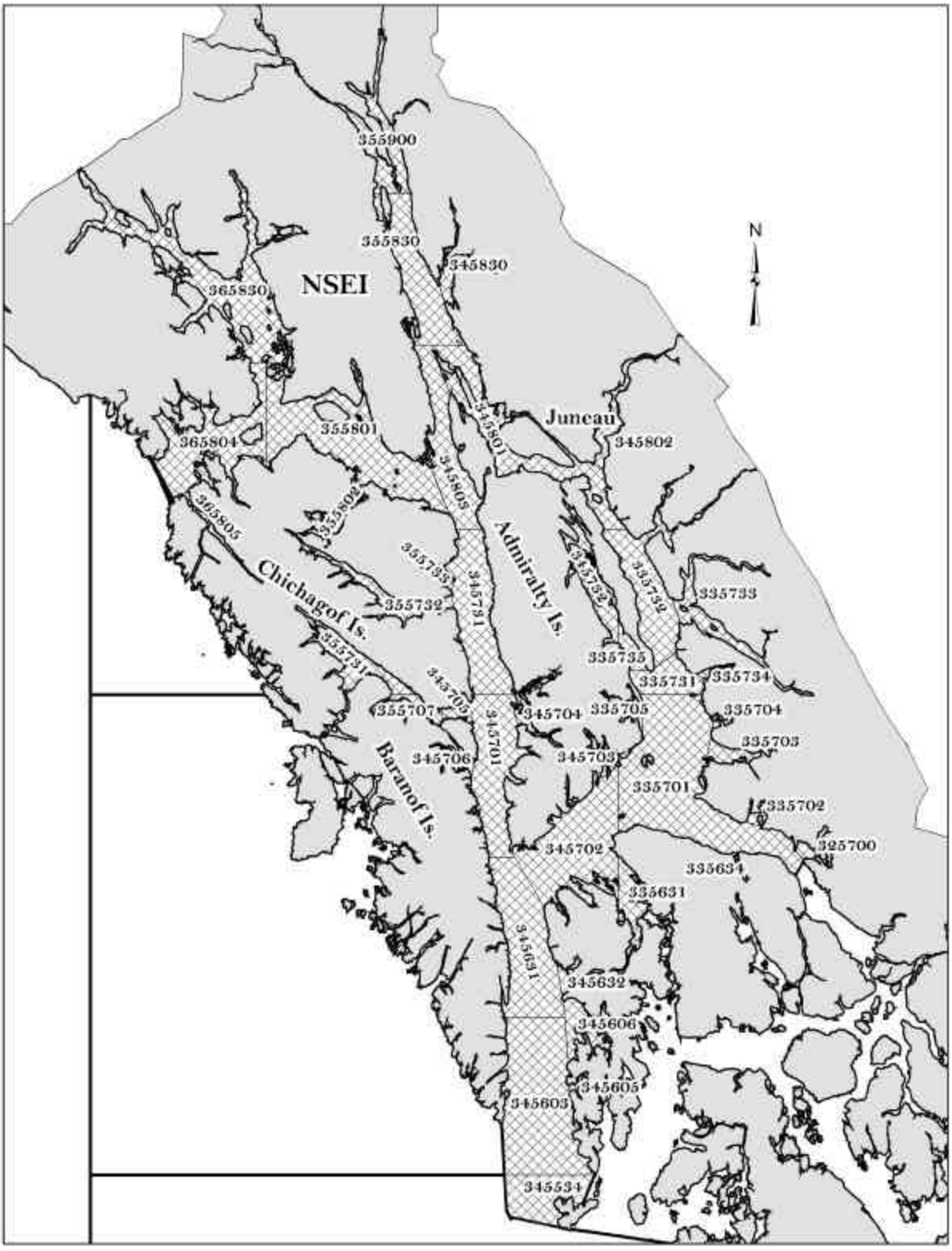


Figure 9. Statistical area chart of NSEI Subdistrict.

APPENDICES

Appendix 1. Priority classification system for Northern Southeast Inside sablefish longline fishery, Southern Southeast Inside sablefish longline fishery, and Southern Southeast Inside sablefish pot fishery excerpted from the State of Alaska Commercial Fishery Entry Commission Regulations.

20 AAC 05.701. Priority classification system for Northern Southeast Inside sablefish longline fishery, Southern Southeast Inside sablefish longline fishery, and Southern Southeast Inside sablefish pot fishery

(a) The commission finds that circumstances exist which require the use of the point systems in 20 AAC 05.703 - 20 AAC 05.713.

(b) A point scale of 0 - 100 is established for the Northern Southeast Inside sablefish longline, the Southern Southeast Inside sablefish longline, and the Southern Southeast Inside sablefish pot fisheries, respectively. An eligible applicant may claim points on the basis of the applicant's past participation and economic dependence as of January 1, 1985.

History: Eff. 8/30/87, Register 103

Authority: AS 16.43.100
AS 16.43.110 (a)
AS 16.43.250 (a)
AS 16.43.260 (e)

20 AAC 05.703. General provisions relating to the Northern Southeast Inside sablefish longline, Southern Southeast Inside sablefish longline, and Southern Southeast Inside sablefish pot fisheries point systems

(a) Eligibility. The commission will accept an application only from an applicant who has harvested the fishery resource commercially while participating in the fishery as the holder of a gear license issued under AS 16.05.536 - 16.05.670 and an interim-use permit issued under AS 16.43.210 (a) during at least one of the calendar years 1975 - 1984.

(b) Joint Operators. If two or more individuals acted as joint operators on the same vessel during a season, the commission will allocate the joint operation's annual catch value and pounds landed from that vessel among the joint operators, regardless of whether all joint operators apply for an entry permit, for the purposes of equitably determining skipper participation points and relative income dependence points for each joint operator who is an applicant. The following will be used to make the allocations and determine points:

(1) The pounds landed and annual catch value allocated to each individual who is party to the joint operation will be based upon ADF&G catch records (fish tickets) recorded under each applicant's interim-use permit unless it is demonstrated that those records do not accurately reflect the pounds landed and the annual catch value.

(2) If the commission finds that the actual distributions of a joint operation's pounds landed and annual catch value among the joint operators differed from that shown on ADF&G catch records (fish tickets), the commission will determine each joint operator's share of the operation's pounds landed and annual catch value based on the available evidence. The sum of the pounds landed allocated to each joint operator will not exceed the total pounds landed from the vessel, and the sum of the annual catch values allocated to each joint operator will not exceed the total annual catch value of the vessel.

(3) A skipper may challenge a commission finding that he or she engaged in a joint operation by requesting a hearing and, if a hearing is granted, presenting evidence as to their actual participation.
(4) After the pounds landed and annual catch value of the joint operation have been allocated among the joint operators in accordance with (1) - (3) of this subsection, skipper participation points and relative income dependence points will be determined for each joint operator who was a skipper as defined in 20 AAC 05.713(9) as follows:
(A) Skipper participation points will be determined in accordance with 20 AAC 05.705(a) (1), 20 AAC 05.707(a) (1), and 20 AAC 05.709(a) (1).
(B) Relative income dependence points will be determined in accordance with 20 AAC 05.705(b) (2), 20 AAC 05.707(b) (2), and 20 AAC 05.709(b) (2).
(c) Joint Ownership of Vessel. If an applicant shares in an investment in a vessel as of January 1, 1985, points awarded the applicant for investment in a vessel will be based on the applicant's relative percentage share of the total investment regardless of whether co-owners have applied for an entry permit. In such joint ownership situations, an individual applicant's percentage share of the total investment will be determined based on the evidence before the commission. Of the 15 available points, the percentage awarded to the applicant will equal the applicant's relative percentage share of the total investment in the vessel.
(d) Extraordinary Circumstances. If extraordinary circumstances prevented an applicant from participating in the fishery in a given season, the commission will, in its discretion, award the applicant those points the applicant could reasonably have claimed but for the extraordinary circumstance. Extraordinary circumstances include temporary illness or disability, the loss of vessel or equipment through sinking, destruction, or extensive mechanical breakdown, and other similar objectively verifiable causes of non-participation. Extraordinary circumstances do not include, for example, voluntary or involuntary retirement from the fishery, permanent illness, permanent disability, or loss of the financial means to continue participation in the fishery.
History: Eff. 8/30/87, Register 103
Authority: AS 16.43.100
AS 16.43.110
AS 16.43.250
AS 16.43.260

20 AAC 05.705. Point system for the Northern Southeast Inside sablefish longline fishery
(a) Past Participation. A maximum of 70 points will be awarded to an applicant for past participation.
(1) Skipper participation points.
(A) Skipper participation points may be claimed for a given season subject to the requirement that the applicant must have commercially harvested at least 2,000 pounds of sablefish in the fishery as a skipper. A rebuttable presumption exists that the applicant was a crewmember and not a skipper for that season if the applicant had only one day with landings in the fishery and the sablefish poundage from that day's landings represented less than 15 percent of the total sablefish poundage delivered from the vessel during that season in the fishery.
(B) An applicant may claim skipper participation points for the 1982 - 1984 seasons as shown in the following schedule:

Season Available Points
1984 18
1983 17
1982 16
(C) Only an applicant entitled to some skipper participation points under (B) of this paragraph may claim points from the following schedule:

Season Available Points
1981 15
1980 14
1979 13
1978 12
1977 11
1976 10
1975 9
(2) Crewmember participation points. A maximum of 15 points will be awarded to an applicant for crewmember participation. An applicant will not receive both skipper participation points and crewmember participation points for the same season.
(A) Crewmember participation points for a given season may be claimed under (B) of this paragraph, subject to the requirements
(i) the applicant must be entitled to skipper participation points for 1982, 1983, or 1984; and
(ii) the applicant must have participated on a vessel from which at least 2,000 pounds of sablefish were commercially harvested in the fishery in that season.
(B) An applicant may claim three points for crewmember participation for each season from 1975 through 1984.
(b) Economic Dependence.
(1) Relative income dependence points and vessel investment points may be claimed under (2) and (3) of this subsection, respectively, subject to the requirement that the sum of the applicant's annual catch values for the years 1982 - 1984 is at least $2,000.
(2) Relative income dependence points.
(A) An applicant's income dependence percentage will be calculated by dividing the sum of the applicant's annual catch values for the years 1982 - 1984 by the combined sums of the applicant's annual catch values for the years 1982 - 1984 and the applicant's occupational income for the years 1982 - 1984, and then multiplying the quotient by 100.
(B) An applicant may claim relative income dependence points as shown in the following schedule:

Income Dependence Percentage Points
at least 20% 15
at least 10% but less than 20% 10
(3) Vessel investment points. An applicant may claim 25 points for investment, as of January 1, 1985, in a vessel that the applicant used or intended to use in the Northern Southeast Inside sablefish longline fishery.
History: Eff. 8/30/87, Register 103
Authority: AS 16.43.100
AS 16.43.110

AS 16.43.250 (a)
AS 16.43.260 (e)

20 AAC 05.707. Point system for the Southern Southeast Inside sablefish longline fishery
(a) Past Participation. A maximum of 70 points will be awarded to an applicant for past participation.
(1) Skipper participation points.
(A) Skipper participation points may be claimed for a given season subject to the requirement that the applicant must have commercially harvested at least 1,000 pounds of sablefish in the fishery as a skipper. A rebuttable presumption exists that the applicant was a crewmember and not a skipper for that season if the applicant had only one day with landings in the fishery and the sablefish poundage from that day's landings represented less than 15 percent of the total sablefish poundage delivered from the vessel during that season in the fishery.
(B) An applicant may claim skipper participation points for the 1982 - 1984 seasons as shown in the following schedule:

Season	Available Points
1984	18
1983	17
1982	16

(C) Only an applicant entitled to some skipper participation points under (B) of this paragraph may claim points from the following schedule:

Season	Available Points
1981	15
1980	14
1979	13
1978	12
1977	11
1976	10
1975	9

(2) Crewmember participation points. A maximum of 15 points will be awarded to an applicant for crewmember participation. An applicant will not receive both skipper participation points and crewmember participation points for the same season.
(A) Crewmember participation points for a given season may be claimed under (B) of this paragraph, subject to the requirements that:
(i) the applicant must be entitled to skipper participation points for 1982, 1983, or 1984; and
(ii) the applicant must have participated on a vessel from which at least 1,000 pounds of sablefish were commercially harvested in the fishery in that season.
(B) An applicant may claim 3 points for crewmember participation for each season from 1975 - 1984.
(b) Economic Dependence.
(1) Relative income dependence points and vessel investment points may be claimed under (2) and (3) of this subsection, respectively, subject to the requirement that the sum of the applicant's annual catch values for the years 1982 - 1984 is at least $1,000.
(2) Relative income dependence points.

(A) An applicant's income dependence percentage will be calculated by dividing the sum of the applicant's annual catch values for the years 1982 - 1984 by the combined sums of the applicant's annual catch values for the years 1982 - 1984 and the applicant's occupational income for the years 1982 - 1984, and then multiplying the quotient by 100.
(B) An applicant may claim relative income dependence points as shown in the following schedule:

Income Dependence Percentage Points
at least 15% 15
at least 5% but less than 15% 10
(3) Vessel investment points. An applicant may claim 15 points for investment, as of January 1, 1985, in a vessel that the applicant used or intended to use in the Southern Southeast Inside sablefish longline fishery.
History: Eff. 8/30/87, Register 103
Authority: AS 16.43.100
AS 16.43.110
AS 16.43.250 (a)
AS 16.43.260 (e)

20 AAC 05.709. Point system for the Southern Southeast Inside sablefish pot fishery
(a) Past Participation. A maximum of 70 points will be awarded to an applicant for past participation.
(1) Skipper participation points.
(A) Skipper participation points may be claimed for a given season subject to the requirement that the applicant must have commercially harvested at least 2,000 pounds of sablefish in the fishery as a skipper. A rebuttable presumption exists that the applicant was a crewmember and not a skipper for that season if the applicant had only one day with landings in the fishery and the sablefish poundage from that day's landings represented less than 15 percent of the total sablefish poundage delivered from the vessel during that season in the fishery.
(B) An applicant may claim skipper participation points for the 1982 - 1984 seasons as shown in the following schedule:

Season Available Points
1984 18
1983 17
1982 16
(C) Only an applicant entitled to some skipper participation points under (B) of this paragraph may claim points from the following schedule:

Season Available Points
1981 15
1980 14
1979 13
1978 12
1977 11
1976 10

1975 9
(2) Crewmember participation points. A maximum of 15 points will be awarded to an applicant for crewmember participation. An applicant will not receive both skipper participation points and crewmember participation points for the same season.
(A) Crewmember participation points for a given season may be claimed under (B) of this paragraph, subject to the requirements that:
(i) the applicant must be entitled to skipper participation points for 1982, 1983, or 1984; and
(ii) the applicant must have participated on a vessel from which at least 2,000 pounds of sablefish were commercially harvested in the fishery in that season.
(B) An applicant may claim three points for crewmember participation for each season from 1975 through 1984.
(b) Economic Dependence.
(1) Relative income dependence points and vessel investment points may be claimed under (2) and (3) of this subsection, respectively, subject to the requirement that the sum of the applicant's annual catch values for the years 1982 - 1984 is at least $2,000.
(2) Relative income dependence points.
(A) An applicant's income dependence percentage will be calculated by dividing the sum of the applicant's annual catch values for the years 1982 - 1984 by the combined sums of the applicant's annual catch values for the years 1982 - 1984 and the applicant's occupational income for the years 1982 - 1984, and then multiplying the quotient by 100.
(B) An applicant may claim relative income dependence points as shown in the following schedule:

Income Dependence Percentage Points
at least 20% 15
at least 10% but less than 20% 10
(3) Vessel investment points. An applicant may claim 15 points for investment, as of January 1, 1985, in a vessel that the applicant used or intended to use in the Southern Southeast Inside sablefish pot fishery.
History: Eff. 8/30/87, Register 103
Authority: AS 16.43.100
AS 16.43.110
AS 16.43.250 (a)
AS 16.43.260 (e)

20 AAC 05.711. Designation of significant and minor hardship classifications for the Northern Southeast Inside sablefish longline fishery, Southern Southeast Inside sablefish longline fishery, and Southern Southeast Inside sablefish pot fishery
(a) The commission designates the priority classifications 81 - 100 as classifications of applicants for the Northern Southeast Inside sablefish longline fishery who would suffer significant economic hardship by exclusion from the fishery, and who will receive entry permits as required by AS 16.43.270 (a).
(b) The commission designates the priority classifications 0 - 48 as classifications of applicants for the Northern Southeast Inside sablefish longline fishery who would suffer only minor economic hardship by exclusion from the fishery, and an entry permit originally issued to such

an applicant by the commission under AS 16.43.250 (c) will have certain restrictions placed upon its transfer as required by AS 16.43.170 (c) and (e).
(c) The commission designates the priority classifications 81 - 100 as classifications of applicants for the Southern Southeast Inside sablefish longline fishery who would suffer significant economic hardship by exclusion from the fishery, and who will receive entry permits as required by AS 16.43.270 (a).
(d) The commission designates the priority classifications 0 - 48 as classifications of applicants for the Southern Southeast Inside sablefish longline fishery who would suffer only minor economic hardship by exclusion from the fishery, and an entry permit originally issued to such an applicant by the commission under AS 16.43.250 (c) will have certain restrictions placed upon its transfer as required by AS 16.43.170 (c) and (e).
(e) The commission designates the priority classifications 81 - 100 as classifications of applicants for the Southern Southeast Inside sablefish pot fishery who would suffer significant economic hardship by exclusion from the fishery, and who will receive entry permits as required by AS 16.43.270 (a).
(f) The commission designates the priority classifications 0 - 48 as classifications of applicants for the Southern Southeast Inside sablefish pot fishery who would suffer only minor economic hardship by exclusion from the fishery, and an entry permit originally issued to such an applicant by the commission under AS 16.43.250 (c) will have certain restrictions placed upon its transfer as required by AS 16.43.170 (c) and (e).
History: Eff. 8/30/87, Register 103
Authority: AS 16.43.100
AS 16.43.110 (a)
AS 16.43.250

20 AAC 05.713. Definitions for 20 AAC 05.701 - 20 AAC 05.713
In 20 AAC 05.701 - 20 AAC 05.713, unless otherwise specified,
(1) "annual catch value" means, from harvesting the fishery resource commercially while participating as a skipper or joint operator in the fishery for which the applicant is applying either
(A) the number of pounds of sablefish caught by an applicant in the fishery for which the applicant is applying, as derived from fish tickets during a given calendar year, multiplied by the average price per pound paid for the sablefish in that fishery during that year; or
(B) the gross amount actually received for the calendar year for the sablefish caught in that fishery;
(2) "applicant" means an individual who applied for an entry permit in the fishery and who was eligible to apply;
(3) "crewmember" means an individual, other than the skipper, who was physically present when the fishing operation occurred, who assisted and participated in the fishing operation under the supervision of the skipper, and who was licensed according to the following:
(A) for the years 1978 - 1984, a person who had a valid crewmember license, interim-use permit, or entry permit at the time the participation occurred; and
(B) before 1978, a person who had a valid commercial fishing license at the time the participation occurred;
(4) "joint operation" means a partnership or any other agreement by which two or more individuals function as joint operators;

(5) "joint operator" means a partner or other party to an agreement by which two or more individuals, whether or not properly and individually licensed, are physically present on the same vessel and in control or joint control of the commercial fishing operation;
(6) "occupational income" means earned income, and includes gross wages, salaries, professional fees, and other amounts received as compensation for personal services actually rendered, including cost-of-living allowances, and net profits from a trade or business, including commercial fishing; "occupational income" does not include net losses of a trade or business, nor does it include pensions, interest, dividends, and other investment income;
(7) "participation" means active engagement in a commercial fishing operation that harvested and sold the sablefish resource in the fishery for which the applicant is applying if the sablefish sales were in accordance with regulations governing the sale or use of commercially caught sablefish applicable at the time of sale, including regulations regarding proper completion of reports required of processors, buyers, and fishermen;
(8) "season" means one or more periods of time during each year beginning with the first day in which the fishery for which the applicant is applying was opened for commercial harvesting and ending with the seventh day following the last day of that opening;
(9) "skipper" means a gear operator who
(A) was physically present on the vessel and who was in control or joint control of the commercial fishing operation; and
(B) used a vessel that was validly licensed as a commercial fishing vessel under AS 16.05.490 at the time the skipper participation occurred; and
(C) was licensed according to the following:
(i) for the years 1978 - 1984 had, at the time the skipper participation occurred, a valid sablefish interim-use permit for the fishery for which the applicant is applying; or
(ii) for the years 1975 - 1977 had a valid commercial fishing license, a valid sablefish interim-use permit for the fishery for which the applicant is applying, and a valid gear license for the gear being used, at the time the skipper participation occurred.
History: Eff. 8/30/87, Register 103
Authority: AS 16.43.100
AS 16.43.110 (a)

Appendix 2. Information on new regulations for the Northern Southeast Inside Subdistrict (Chatham St.) sablefish fishery adopted by the Board Of Fisheries in Anchorage, Alaska, March 1994.

Compiled by
Alaska Department of Fish & Game Staff
March 25, 1994

The Department of Fish and Game (department) has received many questions regarding the new regulations for the Northern Southeast Inside (NSEI) Subdistrict (Chatham Strait) sablefish fishery which were passed by the Board of Fisheries (BOF) March 16, in Anchorage. This report provides background material on the fishery and information on what occurred during the BOF meeting.

BACKGROUND

The NSEI Subdistrict sablefish fishery has been expanding dramatically for over a decade. Rapidly increasing effort resulted in adoption of a limited entry program in 1985. The limited entry program was requested by the industry to halt the increasing number of larger vessels being built for the off-shore fishery from moving into the inside areas. Memos between the department and the Commercial Fisheries Entry Commission (CFEC) document that the limited entry program was never conceived as an end to management problems, but rather as the first step toward developing a comprehensive sablefish management program. Proposals to implement other regulatory measures such as gear or trip limits were rejected by the BOF in 1988 and 1990 because of opposition from the industry.

The fishery has been reduced to a 24-hour annual season since 1987 and, even with the shortened season, the harvest objectives have been consistently exceeded. Most of the increased harvest can be directly attributed to increases in vessel efficiency. In 1984 each vessel set an average of less than 5,000 hooks per boat per day. By 1993 the average had increased to 31,200 hooks per boat per day. The gear and fishing methods have also improved over that time. The 1993 harvest of over 3,600,000 pounds dressed weight was 700,000 pounds above the harvest objective and was the third highest harvest reported in the 87-year history of the fishery. Interview data indicates an additional unreported dead-loss of between 100,000 and 200,000 pounds last season because of lost gear, resulting in an estimated total mortality of nearly 4,000,000 pounds dressed weight during the 1993 fishery.

The reported harvest has exceeded 4,000,000 pounds dressed weight only twice in the history of the fishery, in 1942 and again in 1947. During that period of high harvest levels, the catch per skate dropped dramatically and the sablefish stocks remained at low levels for over 30 years. The historic data suggests that the high harvest taken during the 1993 fishery is not sustainable, at least over the long term.

At the November BOF meetings in Sitka the department proposed increasing the upper end of the guideline harvest range (GHR) from 1,500,000 to 3,000,000 pounds dressed weight. Fisheries performance and department survey data indicates that stock levels increased

substantially during the 1980's because of two strong year classes. The population appears to have remained fairly stable since 1989 with annual harvests of between 2,200,000 and 2,800,000 pounds dressed weight. The catch per hook in the 1993 survey, which was conducted just prior to the 1993 fishery, was the highest observed in the area since 1988. This suggests that harvests near 3,000,000 pounds dressed weight are probably sustainable, at least for the short term. However, the staff explained that any impacts on the stock resulting from the near record harvest taken during the 1993 fishery will not be known until after completion of the 1994 pre-season survey. After considerable discussion, the BOF increased the upper end of the GHR to 3,000,000 pounds, but with the stipulation that the department must manage the fishery within the newly adopted range for the 1994, 1995, and 1996 seasons.

Also during the November meeting, the Alaska Longline Fishermen's Association (ALFA) submitted a proposal to implement gear limits and to hold industry/department meetings prior to each season to establish specific regulations for the up-coming season. It was envisioned that this process would be similar to the International Pacific Halibut Commission (IPHC) Conference Board, which meets annually to make management recommendations for the halibut fishery. However, the BOF cannot delegate authority to the department to make management decisions outside of the written regulations except for in-season Emergency Order action, and then only for conservation reasons. The BOF did not feel they were given enough information during the November meeting to adopt specific gear limit regulations and the gear limit proposal was deferred to the March, 1994, BOF meeting in Anchorage.

The BOF requested Linda Behnken, Executive Director of ALFA to coordinate a management workshop with the industry prior to the March meeting to explore additional management options. Linda agreed to coordinate a management workshop, but stated that this should not be considered an official ALFA undertaking and that she would not be willing to coordinate future meetings. The BOF also requested Linda to attend the March BOF meeting in Anchorage to report on the results of the industry workshop, including any specific recommendations from the industry.

The management workshop was held February 3 and 4 in Sitka. All NSEI Subdistrict sablefish permit holders, area processors, the department, CFEC, and the Fish and Wildlife Protection (F&WP) Division of the Department of Public Safety were invited to participate by way of a letter from ALFA. Twenty-eight out of a total of 120 NSEI Subdistrict sablefish permit holders attended. Scott Marshall, Barry Bracken, and Tory O'Connell represented the department, Kurt Schelle represented CFEC, and Sgt. Starbard represented F&WP. Representatives from Sitka Sound Seafood, Seafood Producer's Coop., and Kake Cold Storage also attended. Minutes from the meeting, which were taken by Linda Perkins, are on file at department offices in Petersburg and Sitka.

Department staff explained that the only management tools the department currently has, outside of regulations passed by the BOF, are time and area restrictions and that area closures are not considered to be a viable option for this fishery. It was further explained that, if no other management alternatives were found, the 1994 fishery would very likely need to be less than 24 hours in order to remain within the 3,000,000-pound harvest limit implemented by the BOF. When asked how much less fishing time would be allowed, a quick calculation indicated that,

based on the recent annual increase in fleet efficiency and assuming a linear time/harvest relationship, the fishery would need to be reduced to 18 hours or less to remain within a 3,000,000-pound dressed weight limit.

Kurt Schelle informed the group that it is not likely that there will be any notable reduction in the number of permits available over the next two seasons as there are several other fisheries ahead of this one still awaiting final permit resolution. The number of permits might be slightly lower by 1996 and should decrease further after 1996 when more hearing officers will be available for this fishery.

Sgt. Starbard stated that F&WP would not support a gear limit proposal because of the complexity of making a case with longline gear and the number of hooks involved. However, the door was left open for the industry to devise gear restriction regulations, which can be enforced. An industry sub-group was formed to further explore longline gear limits as a future management option.

The processors who attended indicated that they are concerned with product quality. Many felt that fish were being retained on board or on the dock too long before processing and that some fish are being poorly handled, thus decreasing product value. Some processors have apparently promised to buy more fish than can be processed within a reasonable time and have vessels lined up for five or six days prior to unloading the fish. There were also reports of round fish deliveries to out-of-state processors. Concerns were expressed that this trend compromised earlier efforts to have Chatham Strait fish recognized by the market for their top quality.
The fishermen then began discussing management options. Many wanted to find ways to make gear limits work. Others wanted to maintain a 24-hour fishery until stocks showed a significant downturn. Department staff explained that was not an option given the BOF directive to manage the fishery within a 3,000,000-pound limit. Some fishermen complained, "If only CFEC would do their job, there would be no problem." Still others preferred to further reduce fishing time as the best solution. Trip or fishing period limits were also discussed at some length. During the remaining half day of discussion, the group compiled a rather broad list of management alternatives, which were subsequently placed on a survey, which was mailed to all NSEI Subdistrict sablefish permit holders for completion.

BOARD OF FISHERIES MEETING, ANCHORAGE MARCH 14-16, 1994

On March 14, 1994 at the BOF meeting in Anchorage, Groundfish Biologist, Barry Bracken, presented a status report on the NSEI area sablefish fishery and Linda Behnken presented the results of the industry survey. Neither the BOF members nor the department staff had seen the results of the survey prior to the meeting. Of the 120 NSEI Subdistrict sablefish permit holders, 68, or 57% responded to the survey. Of those who responded 75% favored a pre-season registration, 63% favored a vessel size limit, 85% favored trip or fishing period limits, 62% preferred a 30-day open fishing period over several other options ranging from 24 hours to 2.5 months, and 88% favored a sunset clause which would terminate the trip limit regulation at the end of the 1996 season, prior to the next regular BOF cycle which is scheduled to consider S.E. Alaska groundfish issues. Slightly over 79% favored holding annual or bi-annual staff/industry meetings to discuss management options, however, the survey noted that subsequent meetings

would not be facilitated by ALFA. Sixty-five percent of the respondents favored a September 26 opening date to a September 1 opening date if the 1994 season lasts more than 24-hours. Only 17% of the respondents preferred retaining time/area closures as the only "management tool" and 35% favored continuing to consider gear limits as a future management option for this fishery.

Public testimony was held on Tuesday. The one individual who testified on this issue was totally opposed to trip limits, including IFQs for the offshore sablefish and halibut fisheries.

The department was requested to write draft regulations based on the results of the industry survey. The draft regulations were submitted to the BOF on March 16, just prior to discussion on the original gear limit proposal. The BOF accepted the draft regulations as substitute language for the original proposal. With the exception of a proposal to limit vessel size, all regulations, which received majority support on the industry survey, were subsequently adopted by unanimous vote. The department asked for clarification of the directive to limit the harvest to 3,000,000 pounds, which was adopted by the BOF in November. The BOF reaffirmed their mandate to the department to manage the fishery within a 3,000,000 pound dressed weight limit for the next three seasons.

The following is a summary of the new regulations.

1. An annual harvest limit will be determined for each permit holder by dividing the annual harvest objective for the NSEI Subdistrict by the number of permits eligible to fish at the beginning of each season. If the 1994 survey indicates that stocks have remained at high levels, it is estimated that each permit holder will be allowed to harvest approximately 25,000 pounds dressed weight (39,700 pounds round weight) during the 1994 season. To assess the impact this might have on individual harvests, the distribution of past landings greater than 25,000 pounds was computed. In 1987, 17% of the fleet landed over 25,000 pounds, by 1992, 41% of the fleet landed over 25,000 pounds and by 1993, 60% of the fleet landed over 25,000 pounds. Given this information, the BOF acknowledged that the new regulations would result in significant reallocation of the harvest compared to the recent trend, but recognized that it greatly increases the probability that the fishery can be managed within the GHR. This regulation will be repealed immediately after the 1996 season.

2. The annual permit limit may be taken by an individual permit holder at any time during a 30-day season, which is to be set by Emergency Order to occur between September 1 and November 15. Since the proposed language allocates the annual harvest limit to a permit holder rather than to a vessel, conceivably more than one permit holder can fish on a vessel. On the other hand, a small vessel operator will be able to make multiple landings up to the annual harvest limit. A check-in and check-out procedure may be required to accommodate this provision. Based on discussions during the meeting, the BOF believes that the longer season will reduce gear loss and life/safety risks, and improve product quality.

3. The proposed regulatory language will be merged with existing regulations to set the opening date for the fishery. Using this criteria, the 1994 fishery would begin on

September 22, a date that avoids the fall halibut opening and coincides with the beginning of the second set of favorable tides in September. The department has received requests to modify the regulations and to open the fishery on September 1. However, the department does not have the authority to modify regulations outside of the Board process. Also, because this is an allocative issue, the department takes a neutral position and will not advocate a change for 1994. The department recognizes that when the halibut fishery comes under IFQ management in 1995, the current provision, which requires that the sablefish seasons be set to avoid conflicts with area 2-C halibut openings, will no longer be required. In future years the permit holders may be polled to pick the opening date from among a number of choices, which satisfy the intent of the regulations.

4. All permit holders must register for the fishery at least seven days prior to the season opening. This will require a written registration and the registration form must be signed by the permit holder(s) who will be on board a specific vessel during the fishery. The proposed language does not have provisions to allow for any changes to be made during the season in the event of unforeseen emergencies, but such provisions may be written into the final regulation.

Copies of the final regulations will be available after they have been reviewed by department staff and the Department of Law. The Department of Law has already provided an opinion that this management approach is within the authority of the BOF and these new regulations should become effective well before the 1994 season.

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